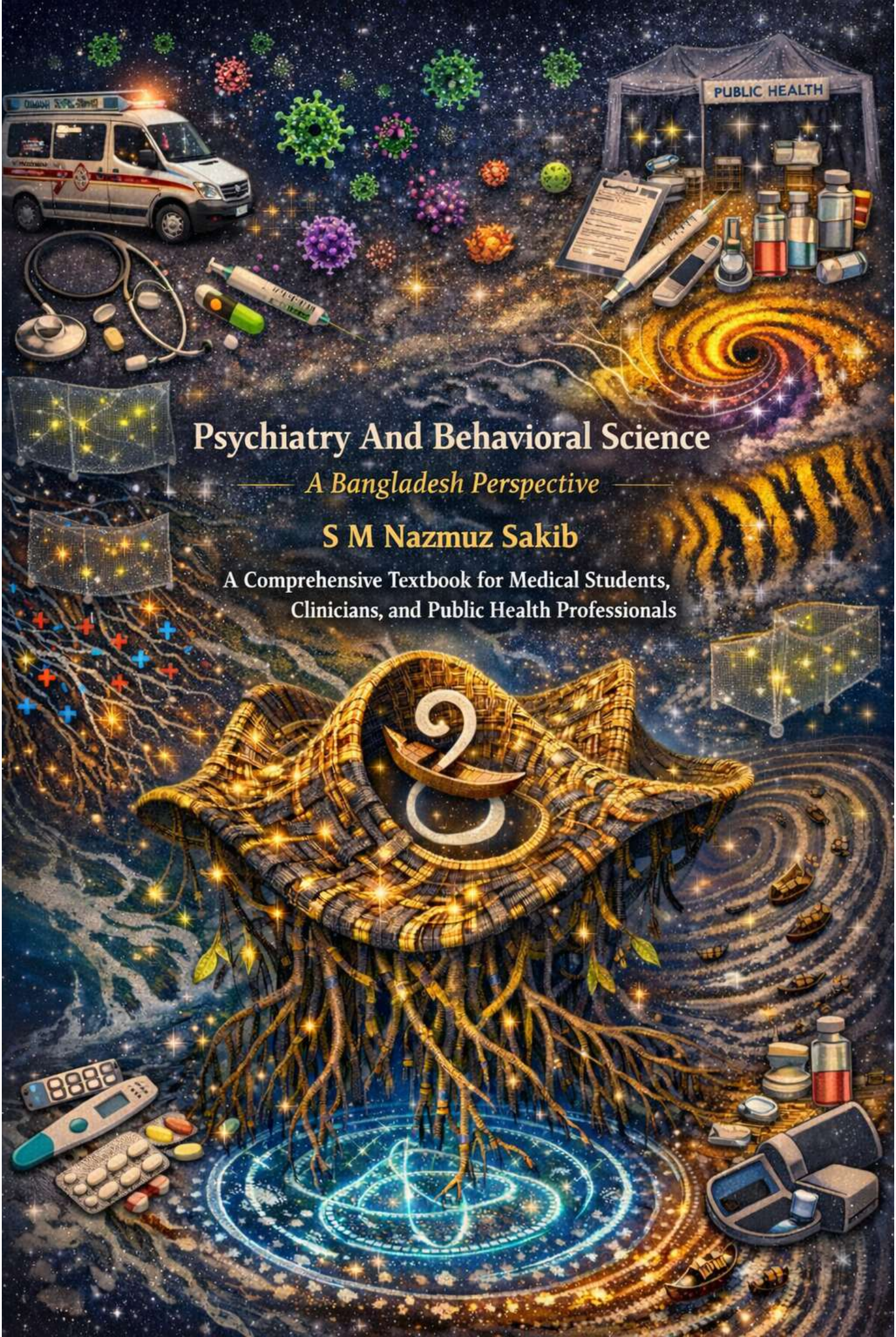

Psychiatry And Behavioral Science

A Bangladesh Perspective

S M Nazmuz Sakib

A Comprehensive Textbook for Medical Students, Clinicians, and Public Health Professionals

Psychiatry And Behavioral Science: A Bangladesh Perspective

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Psychiatry and Behavioral Science: A Bangladesh Perspective

First Edition

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DISCLAIMER

This textbook is intended for educational purposes and as a reference for medical students, psychiatry trainees, clinical psychologists, nurses, public health professionals, and other practitioners working in mental health in Bangladesh and similar contexts. While every effort has been made to ensure the accuracy of the information presented, medical knowledge is constantly evolving, and the author and publisher make no representations or warranties regarding the completeness, currency, or applicability of the content.

The case studies presented throughout this work are composites or fictionalized accounts based on clinical experience. Any resemblance to actual persons, living or dead, is coincidental.

The mention of specific medications, treatment protocols, or organizations does not constitute an endorsement. Readers are advised to consult current prescribing information, clinical guidelines, and local regulations when making clinical decisions.

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PREFACE TO THE FIRST EDITION

This textbook was born out of a persistent and deeply felt need. For decades, students of psychiatry and behavioral science in Bangladesh have studied their discipline using textbooks written for entirely different populations, different health systems, different cultural environments, and different epidemiological realities. The student sitting in a medical college in Rajshahi or Sylhet reads about case vignettes set in London or New York, encounters diagnostic thresholds calibrated for Western populations, and learns treatment protocols designed for health systems with resource configurations that bear little resemblance to the realities of a district hospital in Mymensingh or a primary health center in Barguna. This textbook is an attempt to correct that imbalance, not by abandoning global knowledge, but by anchoring it firmly within the lived realities of Bangladesh.

The textbook is organized across seventeen parts. Each part builds on the previous one, and together they form a comprehensive and integrated account of psychiatry and behavioral science as it is understood, practiced, and experienced in Bangladesh. The first part, which follows this preface, establishes the foundations: it explores the nature of psychiatry as a discipline, traces its history from ancient civilizations to contemporary neuroscience, examines the philosophical questions that underpin psychiatric practice, surveys the major theoretical models that guide clinical reasoning, and situates all of this within the specific social, cultural, epidemiological, and health-system realities of Bangladesh. It is a long opening, deliberately so, because foundations matter enormously in a discipline as contested, complex, and humanistically demanding as psychiatry.

Throughout this text, we have tried to write in a way that is engaging, intellectually honest, and sensitive to controversy. Psychiatry is not a settled science, and it would be dishonest to present it as one. There are genuine debates about the validity of diagnostic categories, about the biological basis of mental illness, about the role of culture in shaping both psychopathology and healing, about the ethics of coercive treatment, about the adequacy of existing services, and about the priorities for research and policy reform. We have tried to present these controversies fairly, and we have tried to help the reader think through them rather than simply presenting authoritative conclusions.

We have also tried to keep the Bangladesh perspective central, not as an afterthought or a final chapter on "special populations," but as the organizing framework of the entire text. This means drawing on Bangladeshi epidemiological data, Bangladeshi case studies, Bangladeshi policy history, and Bangladeshi cultural and spiritual traditions wherever they are available and relevant. It means taking seriously the challenge of practicing psychiatry in a low-resource environment. And it means engaging honestly with the extraordinary social transformations that Bangladesh has undergone in the past half-century and with the mental health consequences of those transformations, including rapid urbanization, changing family structures, climate change and natural disaster exposure, the migration of millions of workers and their families, and the ongoing sequelae of the Liberation War of 1971.

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We hope that this textbook will be useful not only to medical students and psychiatry trainees, but to clinical psychologists, social workers, nurses, public health professionals, policy-makers, and anyone else who wants to understand the mental health of Bangladesh and to do something about it.

PART ONE: FOUNDATIONS OF PSYCHIATRY AND BEHAVIORAL SCIENCE

CHAPTER ONE: WHAT IS PSYCHIATRY? NATURE, SCOPE, AND THE QUESTION OF ITS OWN IDENTITY

1.1 Defining the Discipline: More Difficult Than It Sounds

Ask any medical student what psychiatry is, and you will probably receive an answer along these lines: psychiatry is the branch of medicine concerned with the diagnosis, treatment, and prevention of mental disorders. This is accurate as far as it goes, but it barely scratches the surface of what psychiatry actually is, what it does, and why it occupies such a peculiar and contested position in the landscape of medicine and human knowledge.

Psychiatry is simultaneously a medical specialty and a human science, a clinical practice and a social institution, a therapeutic endeavor and, at times in its history, an instrument of social control. It deals with phenomena, specifically human thoughts, emotions, perceptions, behaviors, and the meanings people attach to their experiences, that are fundamentally different in character from the phenomena studied by cardiology or nephrology. The heart can be measured, weighed, imaged, and biopsied. Despair cannot. A glomerulus can be examined under a microscope. Psychosis cannot be reduced to what the microscope shows, even when there are measurable neurobiological correlates.

This does not mean that psychiatry is not a science or not a part of medicine. It means that psychiatry occupies a uniquely complex position at the intersection of biology, psychology, social science, philosophy, and ethics. To practice psychiatry well is to be comfortable in all of these domains simultaneously, and to be able to move between them without losing one's footing. As the German psychiatrist Karl Jaspers observed in his foundational text "General Psychopathology" published in 1913, the psychiatric clinician must be capable of both "explaining" phenomena through causal analysis, in the manner of natural science, and "understanding" them through empathic interpretation, in the manner of the humanities. This dual capacity remains as relevant today as it was in Jaspers' time, perhaps more so given the extraordinary expansion of both the neurosciences and the social sciences in the intervening century.

In contemporary terms, psychiatry is most usefully understood as the medical specialty concerned with the full range of mental disorders as classified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR, 2022) and the International Classification of Diseases

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(ICD-11, 2019), together with the behavioral aspects of other medical conditions, the psychological aspects of physical illness, and the promotion of mental health and well-being across populations. But even this expanded definition leaves out something important: psychiatry is also, at its best, a practice of bearing witness to human suffering, of taking seriously experiences that society often dismisses or stigmatizes, and of working with individuals and communities toward recovery and flourishing.

1.2 The Relationship Between Psychiatry and Medicine: A Complicated Marriage

The relationship between psychiatry and the rest of medicine is historically rich and not infrequently troubled. For much of its modern history, psychiatry has struggled with what sociologists call "boundary work," the effort to establish and defend its legitimacy within the medical profession on one hand and to distinguish itself from psychology and social work on the other. The nature of this struggle has changed over time, but it has never entirely disappeared.

In the nineteenth century, psychiatry (then usually called "mental medicine" or "alienism") established itself within medicine partly by medicalizing the institutions in which mental illness was managed, specifically the asylum. By claiming that the conditions of people in asylums were diseases of the brain requiring medical treatment, the alienists of the era positioned themselves as doctors rather than mere custodians. This medicalization of madness had both benefits and costs. The benefits included legitimation, the possibility of scientific study, and the development of a therapeutic ethic. The costs included the pathologizing of behaviors and experiences that might better be understood as responses to social circumstances, and the loss of the asylum patient's status as a moral and social agent.

In the twentieth century, psychiatry's relationship with medicine went through several dramatic transformations. The psychoanalytic revolution associated with Sigmund Freud placed psychology at the center of psychiatry, and for several decades, especially in the United States, biological approaches were subordinated to psychodynamic ones. Then, in the second half of the twentieth century, the psychopharmacological revolution, beginning with the discovery of chlorpromazine in 1952 and the subsequent development of a wide range of psychiatric medications, swung the pendulum back toward biology. This biological turn was reinforced by advances in neuroimaging, genetics, and molecular neuroscience, and by the publication of successive editions of the DSM that defined psychiatric diagnoses in descriptive, symptom-based terms rather than through reference to underlying psychological theories.

By the early twenty-first century, psychiatry had come to think of itself primarily as a branch of clinical neuroscience, with mental disorders understood as disorders of brain circuits and neural networks. This is a position that has both strengths and significant weaknesses, and we will examine it in considerable detail in subsequent chapters. For now, it is important to note that the pendulum may be swinging again. As leading voices in the field have acknowledged in the 2020s, the purely biological approach has not delivered the transformative improvements in patient outcomes that were promised. Treatment-resistant depression, schizophrenia with persistent functional impairment, and the vast treatment gaps that characterize mental health care globally testify to the limits of the biomedical model alone. The emerging response, as articulated in frameworks like the Precision Psychiatry Roadmap developed by the European College of

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Neuropsychopharmacology following its 2024 New Frontiers Meeting, aims to integrate biological, psychological, and social data in a more genuinely integrated framework than the biopsychosocial model, in its often rhetorical form, has managed to achieve.

1.3 What Is Behavioral Science and Why Does It Matter to Psychiatry?

Behavioral science is a broader category than psychiatry. It encompasses all the scientific disciplines that study human and animal behavior: psychology, sociology, anthropology, economics, political science, and to some extent evolutionary biology and cognitive neuroscience. The term gained currency in the mid-twentieth century, partly as a way of signaling a commitment to rigor and empiricism across these disciplines, and partly as a way of creating interdisciplinary space for collaboration.

For psychiatry, behavioral science matters for several reasons. First, it provides theoretical frameworks and empirical evidence about the causes and consequences of behavior that are essential for understanding mental disorders. Why do people engage in addictive behavior? What are the social determinants of depression? How do early attachment experiences shape adult mental health? How do cultural beliefs shape the expression and interpretation of psychological distress? These are questions that cannot be answered by neuroscience alone, however sophisticated its tools. They require the conceptual resources of psychology, sociology, and anthropology, and the empirical methods of behavioral research.

Second, behavioral science provides the foundation for the major non-pharmacological treatments in psychiatry, including cognitive-behavioral therapy, dialectical behavior therapy, psychodynamic therapy, family therapy, and community-based interventions. These treatments are among the most effective interventions available for many psychiatric conditions, and their development and refinement have depended on behavioral research.

Third, behavioral science is essential for understanding the population-level determinants of mental health and for developing public health approaches to mental disorder prevention and mental health promotion. This is particularly important in a country like Bangladesh, where the ratio of psychiatrists to population is extremely low and where the emphasis of mental health policy must inevitably be on primary care, community-based approaches, and task-sharing rather than on specialist clinical services alone.

1.4 The Scope of Psychiatry: What Conditions Does It Cover?

The scope of modern psychiatry is vast. The ICD-11 chapter on mental, behavioral, and neurodevelopmental disorders, published in 2019 and gradually being adopted globally, includes hundreds of distinct diagnostic categories organized into broad groupings. These groupings include:

Neurodevelopmental disorders, which have their onset in the developmental period and are characterized by developmental deficits that produce impairments of personal, social, academic, or occupational functioning. They include intellectual developmental disorder, autism spectrum disorder, attention deficit hyperactivity disorder, developmental learning disorders, and several

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others. The neurodevelopmental perspective, which situates these conditions within the trajectory of brain development from conception onward, has been increasingly influential in psychiatry more broadly.

Schizophrenia spectrum and other primary psychotic disorders, characterized by delusions, hallucinations, disorganized thinking and behavior, and negative symptoms such as blunted affect and avolition. Schizophrenia remains one of the most challenging and least understood of all psychiatric conditions, and its management in low-resource settings like Bangladesh presents particular difficulties.

Mood disorders, including depressive disorders, bipolar disorder, and their various subtypes. Depression is the most prevalent of all psychiatric conditions globally and in Bangladesh, and it interacts in complex ways with physical health conditions, social circumstances, and cultural frameworks of suffering and healing.

Anxiety and fear-related disorders, including generalized anxiety disorder, panic disorder, specific phobias, social anxiety disorder, and separation anxiety disorder. Anxiety disorders are extremely common in Bangladesh, both in pure form and as comorbidities of depression and physical illness, and they are frequently unrecognized and untreated.

Obsessive-compulsive and related disorders, including obsessive-compulsive disorder, body dysmorphic disorder, hoarding disorder, and hair-pulling and skin-picking disorders.

Stress-related disorders, including post-traumatic stress disorder (PTSD), complex PTSD (a new category in ICD-11), acute stress reaction, and adjustment disorders. Given Bangladesh's history of collective trauma, including the Liberation War of 1971, repeated catastrophic cyclones and floods, and the massive displacement associated with the Rohingya crisis, stress-related disorders warrant particular attention in this context.

Dissociative disorders, including dissociative neurological symptom disorder (which overlaps with what has historically been called "conversion disorder"), and dissociative amnesia. Dissociative presentations are particularly common in Bangladesh and in many other South Asian settings, and their interpretation at the interface of medicine, psychiatry, and spiritual healing is a subject of considerable complexity.

Feeding and eating disorders, including anorexia nervosa, bulimia nervosa, binge eating disorder, and avoidant/restrictive food intake disorder. While these conditions have historically been considered primarily disorders of high-income Western populations, there is growing evidence that they occur in Bangladesh and other low- and middle-income countries, though their clinical presentation may differ somewhat from the classic Western picture.

Substance use and addictive disorders, including disorders related to the use of alcohol, cannabis, opioids, stimulants, sedatives, and tobacco. Substance use disorders represent a major and growing public health problem in Bangladesh, with particular concerns about the prevalence of yaba (methamphetamine-caffeine tablets), fensedyl (codeine-based cough syrup), opioids, and tobacco.

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Sleep-wake disorders, impulse control disorders, disruptive behavior and dissocial disorders, paraphilic disorders, conditions related to sexual health, and factitious disorders complete the broad landscape of conditions that fall within the scope of psychiatry.

Beyond these clinical categories, psychiatry is also concerned with conditions that sit at the interface of psychiatry and medicine, including medically unexplained symptoms, psychosomatic presentations, delirium, and the psychiatric manifestations of a wide range of neurological conditions. The management of psychiatric comorbidity in physical illness, including in diabetes, cardiovascular disease, cancer, and HIV/AIDS, is an area of growing clinical importance.

1.5 The Challenge of Defining Mental Disorder: A Philosophical Problem with Clinical Consequences

One of the most persistently controversial questions in psychiatry concerns the very concept of mental disorder itself. What is a mental disorder? How do we distinguish mental disorder from ordinary psychological distress, from unusual but non-pathological variation in human experience and behavior, from social deviance, or from the rational responses of sensitive people to genuinely terrible circumstances?

These questions are not merely philosophical curiosities. They have direct clinical and social consequences. If the boundary of mental disorder is drawn too broadly, psychiatry risks medicalizing the normal range of human experience and distress, potentially undermining people's autonomy and resilience, and diverting resources from those with the most severe conditions. If the boundary is drawn too narrowly, people with genuine and serious conditions may be denied diagnosis, treatment, and social support.

The question of what constitutes a mental disorder has been debated intensely since the publication of the third edition of the DSM in 1980, which dramatically expanded the number of diagnostic categories and set in motion a process of what critics like Robert Spitzer (who himself chaired the DSM-III task force but later had reservations about some developments) called "diagnostic inflation." The DSM-5, published in 2013, has been criticized both for removing some categories (such as Asperger syndrome, which was subsumed into autism spectrum disorder) and for adding others (such as binge eating disorder and premenstrual dysphoric disorder) in ways that some regard as pathologizing normal experience.

The philosopher Jerome Wakefield proposed what he called the "harmful dysfunction" analysis of mental disorder: a mental disorder is present when a psychological mechanism fails to perform its natural evolved function (dysfunction) and this failure causes harm to the individual. This analysis has been influential, but it has also been criticized. It is not always clear what the "natural function" of a psychological mechanism is, and it is not always clear how to distinguish dysfunction from normal variation. The harm criterion raises its own questions: harm to whom, as assessed by whom, according to what values?

The sociologist Peter Conrad has documented what he calls the "medicalization of deviance," the process by which behaviors and experiences that were once understood as moral failures, social problems, or simply aspects of human variation come to be redefined as medical

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conditions requiring treatment. This process is not unique to psychiatry, but it is particularly salient in psychiatry because the conditions it deals with are so intimately bound up with questions of meaning, values, and social norms.

In Bangladesh, these definitional questions have particular cultural resonance. Many of the experiences that psychiatry would classify as mental disorders are understood very differently within Bangladeshi cultural and religious frameworks. Auditory experiences that psychiatry might classify as hallucinations may be interpreted as communications from jinn or from deceased relatives. States of profound grief and withdrawal that might meet criteria for major depressive disorder may be understood as appropriate and even morally virtuous responses to loss. Somatic symptoms that accompany anxiety and depression may be presented to physicians as physical illnesses rather than as mental health problems, because the concepts through which people understand and communicate their distress are shaped by cultural idioms that do not map neatly onto Western psychiatric nosology. We will explore these issues in depth in later chapters; they are flagged here to signal that the conceptual foundations of psychiatry are not neutral or universal, and that practicing psychiatry in Bangladesh requires constant critical reflection on those foundations.

1.6 Case Study 1.1: The Question of What Constitutes Mental Illness in a Bangladeshi Context

Fatema is a 35-year-old woman from a rural area of Tangail district. She presents to the outpatient clinic of the district hospital accompanied by her husband and mother-in-law. The presenting complaint, as recorded by the receiving physician, is that she "hears voices and behaves strangely." She has been refusing to eat properly, is sleeping very little, and has been talking about a recently deceased aunt whose spirit, she believes, is communicating with her and urging her to perform certain ritual acts.

The family has already consulted a local faith healer, or kabiraj, who performed a ritual cleansing ceremony and attributed Fatema's condition to possession by a malevolent spirit. This provided some temporary relief, but the symptoms have persisted. A village doctor, or palli chikitshak, prescribed some herbal remedies and later a benzodiazepine, which helped somewhat with sleep but did not address the core symptoms.

When Fatema is assessed by the psychiatry team, she is found to have auditory hallucinations, ideas of reference, disturbed sleep, and marked functional impairment. She does not appear to have clear delusions in the formal sense; her conviction that the spirit of her aunt is communicating with her is shared by several other family members and is consistent with widely held local beliefs about the active agency of the deceased. She is not distressed by the communications themselves, which she experiences as meaningful, though she is distressed by the functional disruption they are causing in her life.

This case raises several important questions that will be revisited throughout this textbook. Is Fatema experiencing a psychotic disorder? Is she experiencing a culturally specific form of dissociation or trance? Is her condition best understood within a psychiatric framework, a cultural or spiritual framework, or some integration of both? What weight should be given to her

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own understanding of her experience and to the understanding of her family and community? What are the ethical implications of applying a Western psychiatric diagnosis to an experience that the person herself does not interpret in those terms? And what are the practical implications of different interpretive frameworks for treatment, for her relationship with her family, and for her sense of identity and agency?

There are no simple answers to these questions. But they are exactly the kinds of questions that the psychiatrist in Bangladesh must be prepared to engage with thoughtfully, compassionately, and with epistemic humility, that is, with an honest acknowledgment of the limits of one's own knowledge and the genuine possibility that other frameworks of understanding may capture something important that one's own framework misses.

CHAPTER TWO: HISTORY OF PSYCHIATRY - FROM ANCIENT PRACTICE TO CONTEMPORARY NEUROSCIENCE

2.1 Ancient Understandings of Mental Illness

The history of mental illness is as old as human history itself. Evidence for what we would today recognize as psychiatric conditions, including psychosis, severe depression, and anxiety, appears in some of the earliest written records of human civilization. Understanding this history is not merely an intellectual exercise; it shapes our appreciation of why psychiatry is the kind of discipline it is today, why it carries such heavy cultural and moral baggage, and why its relationship to the people it purports to help has been so complicated.

In ancient Mesopotamian civilization, mental illness was understood primarily in supernatural terms. Disturbances of thought, perception, and behavior were attributed to the actions of demons, divine punishment, or violation of sacred taboos. The treatment was correspondingly religious and ritual in nature: exorcism, prayer, sacrifice, and the performance of symbolic acts to appease the offended deity or drive out the possessing spirit. Mesopotamian texts from around 3000 BCE describe conditions that bear recognizable similarities to what we would today call psychosis, depression, and anxiety, and they describe specialized healers who dealt with these conditions through a combination of ritual and herbal remedies.

Ancient Egyptian medical papyri, including the Ebers Papyrus (approximately 1550 BCE), contain descriptions of conditions characterized by mental disturbance and suggestions for their management. The heart, rather than the brain, was regarded in ancient Egypt as the seat of the mind and emotions, and disturbances of the heart were thought to cause mental illness. Interestingly, the ancient Egyptians also recognized the therapeutic value of pleasant environments, music, and purposeful activity for people with mental disorders, anticipating by several millennia the principles of what would later be called "moral therapy" and occupational therapy.

In ancient India, the Ayurvedic system of medicine, which began to be codified in texts like the Charaka Samhita (approximately 6th century BCE) and the Sushruta Samhita (approximately

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6th century BCE, though the dates are debated), included systematic accounts of mental disorders. Ayurveda understood mental illness as arising from imbalances in the three fundamental biological humors (doshas): vata, pitta, and kapha. Specific mental disorders were associated with specific doshic imbalances, and treatment involved dietary modifications, herbal preparations, yoga, meditation, and spiritual practices aimed at restoring balance. The Charaka Samhita described eighteen types of mental illness, using terms like unmada (madness), apasmara (epilepsy), and bhuta (spirit possession), and it recommended treatments that included both somatic interventions and what we might today recognize as supportive psychotherapy. This Ayurvedic tradition is historically important for our purposes because it directly influenced the development of healing practices in the Bengal region, including what is now Bangladesh.

Ancient Chinese medicine, codified in texts like the Huangdi Neijing (The Yellow Emperor's Classic of Medicine, approximately 2nd century BCE), understood mental illness as arising from disruptions in the flow of qi (life energy) through the body's meridian system, and from imbalances between yin and yang. The Chinese system recognized a close relationship between emotions and the functioning of specific organs: grief was associated with the lungs, fear with the kidneys, anger with the liver, and excessive joy with the heart. Treatment involved acupuncture, herbal medicine, and the restoration of harmony in all aspects of the patient's life.

Ancient Greek medicine introduced a more naturalistic approach to mental illness, though it did not entirely abandon supernatural explanations. Hippocrates (approximately 460-370 BCE) argued that mental illness, like physical illness, arose from natural causes rather than divine punishment, and he located the seat of the mind in the brain. He described conditions that resemble what we would today call epilepsy, depression, psychosis, and hysteria (a term derived from the Greek word for uterus, reflecting the ancient belief that certain symptoms in women arose from displacement of the uterus). His theory of mental illness attributed it to imbalances among four bodily humors: blood, yellow bile, black bile, and phlegm. An excess of black bile, in his system, produced melancholia, the ancient Greek term for what we would today call depression.

The humoral theory of mental illness was later elaborated by Galen (129-216 CE), who became the dominant medical authority in the Western world for over a thousand years. Galen's synthesis of Greek medicine, which attributed all mental and physical illness to humoral imbalances, remained influential in both European and Islamic medicine through the medieval period and into the early modern era.

2.2 Medieval and Islamic Contributions

The medieval Islamic world made major contributions to the understanding and treatment of mental illness that are often underappreciated in standard histories of psychiatry. The great Arab physician Avicenna (Ibn Sina, 980-1037 CE), working in Persia, wrote extensively on psychological medicine in his encyclopedic work "The Canon of Medicine" (Al-Qanun fi al-Tibb). He described detailed accounts of conditions we would recognize as depression, anxiety, psychosis, and various personality disorders. He was among the first to describe what he called "love sickness" (ishq) as a genuine clinical condition. He emphasized the importance of the physician-patient relationship and of psychological as well as physical treatments.

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Perhaps most remarkably, the medieval Islamic world established dedicated hospitals, or bimaristans, for the care of the mentally ill at a time when Europe was still primarily managing mental disorder through religious institutions, families, or imprisonment. The bimaristan established in Cairo by Sultan Qalawun in 1284 CE included a specific ward for patients with mental disorders, where treatment included music, storytelling, occupational activities, and social engagement, practices that we would today recognize as elements of psychiatric rehabilitation. These institutions were far in advance of anything that existed in contemporary Europe.

This Islamic tradition of medicine, which entered the Bengal region through the Mughal Empire and before that through earlier Muslim contacts, formed part of the Unani (from "Ionian," referring to Greek origins) medical tradition that has been practiced in Bangladesh and India for centuries. Unani medicine, like Ayurveda, continues to be practiced in Bangladesh today, sometimes alongside and sometimes in tension with biomedical psychiatry.

2.3 Pre-Colonial Bengal: Understanding Mental Distress Before the Asylum

The Bengal region, which includes present-day Bangladesh and the Indian state of West Bengal, had its own rich traditions of understanding and responding to mental distress before the arrival of European colonialism. These traditions drew on multiple sources: Hindu Ayurvedic medicine, Islamic Unani medicine, folk healing practices rooted in local cosmologies, and the practices of various village specialists including kabiraj (herbalist-practitioners), ojha (spirit healers), and fakir (Islamic mystic healers).

Mental distress in pre-colonial Bengal was understood through several intersecting frameworks. The Ayurvedic framework attributed mental illness to doshic imbalances and to disturbances in the relationship between the individual and the cosmic order. The Islamic Unani framework offered similar humoral explanations, with additional reference to Islamic concepts of the soul (ruh) and the influence of jinn. Folk cosmologies attributed certain forms of mental disturbance to spirit possession, to the evil eye (nazar), to violations of taboos related to sacred places or persons, or to disruptions in the proper social order.

Healers who addressed mental distress in this context employed a wide range of techniques: herbal remedies and dietary modifications; ritual performances including recitation of Quranic verses (ruqyah), the use of amulets (taweez), and exorcism; social and community interventions including facilitated reconciliation between conflicting parties; and what we might recognize as supportive counseling within the context of an ongoing relationship between healer and patient. The family and community were typically involved in the healing process in ways that modern Western psychiatric practice largely does not replicate.

Critically, these pre-colonial healing systems typically did not make a sharp distinction between mental and physical illness, between "medical" and "religious" or "spiritual" explanations, or between the individual and the social context. A person experiencing mental distress was understood as a person embedded in relationships, communities, and a cosmic order, and healing was understood as the restoration of harmony across all these dimensions. While it would be romanticizing these traditions to suggest they were always effective or benign, it would

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be equally mistaken to dismiss them as mere superstition. They represented sophisticated attempts to make sense of and respond to human suffering within the conceptual resources available to a particular time and place, and they continue to be practiced and to provide meaningful help to many people in Bangladesh today.

2.4 The Colonial Asylum: European Psychiatry Comes to Bengal

The arrival of European colonial rule in Bengal, and the subsequent establishment of British administration over what became Bengal Presidency, introduced a fundamentally different approach to mental illness. British colonial psychiatry was shaped by a combination of utilitarian public administration, a growing medical profession seeking to establish its authority over madness, and a set of deeply racialized assumptions about the mental capacities and vulnerabilities of colonized peoples.

The first asylum for the mentally ill in Bengal was established at Calcutta (now Kolkata) in 1787, under the authority of the East India Company. It was modeled on the European lunatic asylum, primarily as a custodial institution designed to remove persons who were considered dangerous or disruptive from public life. The primary concern was not with the welfare of the patients but with the orderly management of the colonial city and the containment of individuals whose behavior was threatening to public order. Treatment, in any meaningful sense, was minimal.

Throughout the nineteenth century, the colonial asylum system expanded across Bengal, with asylums established in Dacca (Dhaka), Berhampore, Patna, and other centers. The Dhaka Asylum, later the Pabna Mental Hospital (established in 1957 in its current location, though with earlier antecedents), became the primary institution for the care of the mentally ill in what would become East Pakistan and then Bangladesh. The conditions in these institutions were typically appalling: overcrowding, inadequate food, minimal treatment, physical restraints, and high mortality rates. The patients were predominantly the most severely ill, those whose families could not or would not manage them at home, or those whose behavior had brought them into conflict with the law.

Colonial psychiatric theory also developed a racialized account of mental illness that deserves mention because of its lasting influence on how Western medicine has understood non-Western populations. Colonial psychiatrists argued that "natives" were prone to certain forms of mental illness, that they had simpler nervous systems that made them less susceptible to "civilized" mental disorders like neurasthenia and hysteria, and that their mental illness was more likely to manifest in primitive and somatic ways. These arguments were used to justify differential treatment of European and Indian patients within the colonial asylum system, and they contributed to a broader intellectual tradition of attributing psychological characteristics to racial and cultural groups in ways that were both scientifically unfounded and politically convenient for the colonial project.

The Lunacy Act of 1912, passed under British colonial rule in India, remained the legal basis for psychiatric practice in Bangladesh until 2018. This act, designed primarily to regulate the detention and management of "lunatics," treated mentally ill people primarily as subjects of

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administrative control rather than as individuals with rights and treatment needs. Its persistence for over a century after independence reflects the extraordinary institutional inertia that characterizes mental health systems in low- and middle-income countries, and its eventual replacement by the Mental Health Act of 2018, while an important step forward, still leaves many gaps in the legal and human rights framework for mental health care in Bangladesh.

2.5 The Birth of Modern Psychiatry: Europe in the 18th and 19th Centuries

Modern Western psychiatry is conventionally said to have been "born" in the late eighteenth century, with the moral reform movement associated with figures like Philippe Pinel in France and William Tuke in England. The story of Pinel removing the chains from the patients at the Bicetre Asylum in Paris in 1793 is one of the foundational myths of psychiatry, though historians have rightly complicated this narrative. What the moral reform movement did accomplish was to shift the dominant framework for understanding and treating mental illness from pure custodial confinement toward something that, however imperfectly, claimed to be treatment.

The moral treatment movement, as it came to be known, was based on the idea that mental illness was not simply a disease of the brain but a disorder of the moral and emotional life of the person, amenable to treatment through a humane environment, structured activity, social engagement, and a therapeutic relationship between patient and physician. The York Retreat, established by William Tuke in 1796, became a model for this approach: a relatively small, humane institution in which patients were treated with kindness, provided with meaningful work and social activities, and engaged in a therapeutic relationship with staff based on moral suasion rather than coercion and restraint.

This vision, however inspiring, was quickly overwhelmed by the practical realities of the nineteenth century. The rapid industrialization and urbanization of Western Europe produced massive social disruption, pauperization, and a corresponding increase in the numbers of people presenting with severe mental illness and being admitted to asylums. The asylums grew enormously in size, and as they grew, the possibility of genuinely individualized, relationship-based moral treatment became increasingly remote. By the mid-nineteenth century, the great asylums of England, France, and Germany were massive custodial warehouses, and the asylum doctors who ran them were primarily administrators rather than therapists.

The latter part of the nineteenth century saw the emergence of scientific psychiatry as an academic discipline, with the development of systematic clinical observation, classification of mental disorders, and the beginnings of brain pathology research. The German psychiatrist Wilhelm Griesinger declared in 1845 that "mental diseases are brain diseases," launching a tradition of biological psychiatry that has remained influential, with various ups and downs, to the present day. Emil Kraepelin (1856-1926), the most influential psychiatrist of the late nineteenth and early twentieth century, developed a systematic approach to psychiatric classification based on long-term clinical observation and the identification of distinct disease entities with characteristic courses and outcomes. His distinction between "dementia praecox" (later renamed schizophrenia by Eugen Bleuler) and "manic-depressive insanity" remains embedded in modern psychiatric nosology, however much the details have been revised.

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2.6 The Freudian Revolution and Its Discontents

Sigmund Freud (1856-1939) transformed not only psychiatry and psychology but the entire Western cultural landscape of the twentieth century. Starting from clinical observations about hysteria and hypnosis in the 1890s, Freud developed a comprehensive theory of the mind and its disorders that emphasized the importance of unconscious mental processes, the role of early childhood experience in shaping adult personality and psychopathology, and the dynamic between conscious and unconscious elements of the psyche as the engine of both psychological development and psychological suffering.

Freud's theories are too complex and too contested to summarize adequately in a few paragraphs, and we will return to them in the chapter on theoretical models. Here it is sufficient to note several things. First, psychoanalysis represented a fundamental shift in the conceptual foundations of psychiatry: from a purely brain-based approach toward one that took seriously the content of psychological experience, the meanings people attached to their symptoms, and the relational context in which psychological suffering occurred. Second, psychoanalytic theory proved enormously influential, not only in psychiatry but in literature, art, anthropology, and popular culture. Third, it became the dominant paradigm in American psychiatry from roughly the 1930s to the 1970s, a period in which the training of American psychiatrists was largely psychodynamic, the textbooks were written from a psychodynamic perspective, and the leading figures in the field were psychoanalysts. Fourth, the psychoanalytic paradigm was eventually displaced, at least in academic and research psychiatry, by the biological paradigm associated with the DSM-III revolution of 1980 and the subsequent expansion of psychopharmacology. Fifth, this displacement was not, in the view of many thoughtful clinicians and scholars, simply an advance: something important was lost when psychiatry abandoned its engagement with the meaningful, experiential, and relational dimensions of mental illness in favor of a purely descriptive and biological framework.

In Bangladesh and in South Asia more broadly, psychoanalysis has had very limited influence compared to its impact in Europe and North America. This partly reflects the different intellectual histories of South Asian countries, the dominance of biological and pharmaceutical approaches in South Asian psychiatry from the mid-twentieth century onward, and the absence of the institutional infrastructure (training institutes, professional associations, long-term outpatient practice) that psychoanalysis requires. However, as we shall see in the chapters on psychological treatments, psychodynamic concepts have permeated clinical practice in ways that are not always explicitly acknowledged, and there is growing interest in culturally adapted psychotherapeutic approaches in Bangladesh.

2.7 The Psychopharmacological Revolution

The year 1952 is often cited as a pivotal moment in the history of psychiatry. In that year, two French psychiatrists, Jean Delay and Pierre Deniker, reported the clinical effects of a new compound, chlorpromazine, in patients with psychosis. Chlorpromazine, originally synthesized as an antihistamine, had remarkable calming and antipsychotic properties that set it apart from earlier sedative drugs. Its discovery, and the subsequent development of the entire class of antipsychotic medications, fundamentally transformed the management of schizophrenia and

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other psychotic disorders, making it possible to treat acute psychosis pharmacologically and to manage chronic psychotic illness in ways that reduced the need for prolonged institutional care.

The chlorpromazine story was followed rapidly by other pharmacological discoveries. In 1957, the first antidepressants were reported: imipramine (a tricyclic antidepressant) and iproniazid (a monoamine oxidase inhibitor). In 1949, John Cade in Australia had reported the mood-stabilizing effects of lithium. Benzodiazepines were introduced in the 1960s as anxiolytics. These discoveries were not the result of a systematic scientific program based on a clear understanding of the neuroscience of mental disorders; they were largely serendipitous, arising from clinical observations about the effects of compounds developed for other purposes. Nevertheless, they were enormously consequential.

The psychopharmacological revolution had several major effects on psychiatry. It provided support for the biological model of mental illness: if depression responds to antidepressants that raise monoamine levels in the brain, this seemed to support the theory that depression was caused by a deficiency of monoamines (the "chemical imbalance" theory). It facilitated deinstitutionalization, at least in high-income countries, by making it possible to manage many patients outside hospital. It created a massive pharmaceutical industry with a powerful interest in developing and marketing new psychiatric drugs. It shifted the training and identity of psychiatrists toward pharmacological expertise. And it raised profound questions, still unresolved, about the balance between pharmacological treatment and psychosocial approaches.

The history of psychopharmacology in Bangladesh mirrors, with a time lag, the global story. Chlorpromazine and the tricyclic antidepressants became available in Bangladesh from the 1960s onward. The selective serotonin reuptake inhibitors (SSRIs), which largely replaced tricyclics as first-line antidepressants in high-income countries from the 1990s, became available in Bangladesh in the 1990s and 2000s, though cost and availability remained significant barriers. More recently, atypical antipsychotics have gradually become more accessible, though they remain expensive relative to incomes in Bangladesh. The challenges of rational prescribing, medication adherence, drug availability, and the management of side effects in a resource-limited context will be discussed in detail in later chapters.

2.8 The DSM Revolution and the Era of Descriptive Psychiatry

The publication of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) by the American Psychiatric Association in 1980 represents another watershed moment in psychiatric history. Its significance is difficult to overstate. DSM-III abandoned the psychodynamic etiological framework that had structured earlier editions and replaced it with a descriptive, symptom-based approach to diagnosis that was explicitly "atheoretical" with respect to etiology. Mental disorders were defined by operational criteria: specified sets of symptoms, duration thresholds, and exclusion criteria, applied without reference to hypothetical underlying causes.

The stated rationale for this approach was to improve the reliability of psychiatric diagnosis, which studies in the 1960s and 1970s had shown to be disturbingly low. If two psychiatrists

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examining the same patient could not agree on the diagnosis, the field had a serious problem. DSM-III's operational criteria dramatically improved inter-rater reliability: different clinicians applying the same criteria to the same patient were much more likely to agree on the diagnosis.

However, the improvement in reliability came at a cost. Critics argued that DSM-III achieved its reliability by essentially defining away the hard questions: by focusing on what could be reliably observed and measured (symptoms), it deliberately bracketed the deeper questions of etiology, pathophysiology, and meaning that were central to the patient's experience. The diagnoses it produced were categories of convenience rather than genuine natural kinds. Moreover, as successive editions of the DSM expanded the number of diagnostic categories and in some cases lowered the thresholds for existing categories, the problem of diagnostic inflation became increasingly apparent.

The Research Domain Criteria (RDoC) initiative, launched by the US National Institute of Mental Health in 2010, represented an explicit attempt to develop a new approach to psychiatric classification based on neuroscience rather than symptom clusters. RDoC proposes to organize mental health research around fundamental behavioral and neural systems (such as the arousal system, the reward system, and the social processing system) rather than around DSM categories. This initiative has generated considerable research activity and intellectual ferment, but it has not yet produced a practical alternative to DSM/ICD categories for clinical use.

The ICD-11, published by the World Health Organization in 2019 and gradually being adopted around the world, represents a somewhat different response to these challenges. It retains the categorical approach of previous ICD editions but incorporates a number of innovations, including a new "clinical utility" criterion for diagnostic categories, the addition of complex PTSD as a new category, the removal of homosexuality (which had already been removed from DSM-III in 1973 and from ICD-9 in 1975, but remained in the section on sexual disorders in ICD-10 in attenuated form), and a more explicit acknowledgment of the role of cultural factors in psychiatric presentation.

Bangladesh officially uses ICD-10 in its health system at present, with a gradual transition to ICD-11 underway. However, both ICD and DSM are used in clinical and research practice, and the diagnostic categories employed by individual clinicians depend heavily on their training background.

2.9 From Deinstitutionalization to Community Mental Health: An Unfinished Revolution

One of the most important policy developments in twentieth-century psychiatry was deinstitutionalization: the large-scale reduction in the number of patients residing in psychiatric hospitals. In high-income countries, deinstitutionalization began in the 1950s and accelerated through the 1960s, 1970s, and 1980s, driven by a combination of the psychopharmacological revolution, changing legal and civil rights frameworks, the community mental health movement, and fiscal pressures on governments.

The theory behind deinstitutionalization was that with adequate community support, medication, and psychosocial services, most people with serious mental illness could live successfully outside

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hospital, leading more autonomous and fulfilling lives than they could in institutions. This theory was not wrong; the evidence from well-resourced community mental health programs demonstrates that community-based care, when properly funded and organized, can produce better outcomes than long-term hospitalization for most people with severe mental illness. The problem was that deinstitutionalization in most high-income countries proceeded much faster than the development of community alternatives. The result in many places was not community care but no care: people discharged from hospitals into inadequate housing, with insufficient support, excessive reliance on police and prisons as de facto psychiatric institutions, and escalating rates of homelessness among people with severe mental illness.

In Bangladesh, the situation is very different, because deinstitutionalization in the Western sense has not occurred. Bangladesh has always had very limited institutional psychiatric capacity: a total of fewer than 1000 dedicated psychiatric beds for a population of approximately 170 million people. Most people with mental illness in Bangladesh have never been hospitalized and are unlikely ever to be so. Instead, they are managed within families and communities, with or without the assistance of health care providers, traditional healers, and religious institutions. This means that the challenge for Bangladesh is not to develop alternatives to existing institutions, but to develop community-based services where almost nothing formal currently exists. This is a fundamentally different challenge, and it requires a fundamentally different policy approach.

The global mental health movement, which gained momentum in the 2000s with the publication of the Lancet's groundbreaking series on global mental health in 2007, has advocated strongly for the scale-up of community-based mental health services in low- and middle-income countries. The core principle of this movement is that effective treatments for mental disorders exist and that the massive treatment gap in low- and middle-income countries is ethically unacceptable. The proposed solution involves the integration of mental health into primary care, the training of non-specialist health workers in the recognition and management of common mental disorders (a strategy called "task-sharing" or "task-shifting"), and the use of simplified and adapted treatment protocols. The WHO's Mental Health Gap Action Programme (mhGAP), launched in 2008, provides a practical implementation framework for this approach, with specific guidelines for the management of depression, psychosis, substance use, suicide risk, and other priority conditions in non-specialist settings. The mhGAP program has begun to be piloted in Bangladesh, though its implementation remains incomplete and uneven.

CHAPTER THREE: PHILOSOPHICAL FOUNDATIONS OF PSYCHIATRY

3.1 Why Philosophy Matters for Psychiatric Practice

It might seem strange to include a chapter on philosophy in a clinical textbook. Philosophy, one might think, is the province of academics and has little bearing on the practical work of diagnosing and treating mental illness. This view is mistaken, and the mistake is consequential.

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Every clinical decision a psychiatrist makes rests on assumptions that are at their root philosophical. When a clinician diagnoses a patient with schizophrenia, they are making an implicit commitment to a particular theory of what schizophrenia is, whether it is a disease of the brain, a set of behavioral and experiential phenomena meeting certain criteria, a form of extreme deviance from social norms, or some combination of these. When they decide whether to initiate medication, they are making implicit judgments about the relationship between biological symptoms and subjective experience, about the balance between patient autonomy and clinical authority, and about what the goal of treatment actually is. When they assess suicide risk, they are making judgments about the nature of agency and responsibility under conditions of extreme psychological distress. These are not merely clinical judgments; they are philosophical ones.

The branch of philosophy most directly relevant to psychiatry is philosophy of mind: the study of the nature of mental phenomena, their relationship to physical processes, and our capacity to know and understand them. But psychiatry also draws on epistemology (the theory of knowledge: how do we know what we know about mental disorders?), ethics (the theory of right action: how should we treat people with mental disorders?), philosophy of science (what distinguishes good from bad scientific explanations in psychiatry?), and social philosophy (what is the relationship between individual mental illness and social structure and social power?).

3.2 The Mind-Body Problem: The Oldest Question in Psychiatry

The "mind-body problem" has been a central topic in Western philosophy since at least the time of Descartes (1596-1650), who proposed a sharp dualism between the mind (res cogitans: thinking substance) and the body (res extensa: extended or physical substance). For Descartes, the mind was a non-physical substance that interacted with the physical body through the pineal gland. This Cartesian dualism has been enormously influential, even though most contemporary philosophers and scientists reject it: its influence is visible in everyday thinking (the common tendency to draw a sharp line between "physical" and "mental" illness, or between "real" and "imaginary" symptoms), in medical education (which traditionally treats mind and body separately), and in the persistent tendency to treat psychiatric illness as somehow less legitimate than physical illness.

Contemporary philosophy of mind offers several alternative positions to Cartesian dualism. Physicalism (or materialism) holds that mental phenomena are ultimately identical to or fully reducible to physical (especially neural) phenomena. In its strong form, this position implies that psychiatry is ultimately neuropsychiatry: all mental disorders are brain disorders, and a complete account of mental illness will ultimately be given in terms of neural mechanisms. This view has driven much of the research agenda of biological psychiatry, including the search for biomarkers, neuroimaging signatures, and genetic risk factors for psychiatric disorders.

Functionalism, a position associated with philosophers like Hilary Putnam, holds that mental states are defined not by their physical composition but by their functional role, specifically by their causal relationships to sensory inputs, behavioral outputs, and other mental states. On this view, the same mental state could in principle be "realized" in different physical substrates: what matters is the functional organization, not the material composition. Functionalism has been

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influential in cognitive science and has supported the development of computational models of mind.

Phenomenology, the philosophical tradition associated with Edmund Husserl, Martin Heidegger, and Maurice Merleau-Ponty, emphasizes the importance of first-person subjective experience as the primary datum of any account of mind and mental illness. For phenomenologists, any explanation of psychiatric disorder that does not take seriously the patient's lived experience and the meaning of their symptoms is fundamentally incomplete, however rigorous it may be from a neuroscientific point of view. The phenomenological tradition has had important influence on psychiatry through the work of Karl Jaspers (whose "General Psychopathology" drew heavily on Husserl's phenomenology), Thomas Szasz, R.D. Laing, and, more recently, the "phenomenological psychiatry" movement associated with scholars like Josef Parnas and Thomas Fuchs.

The debate between these positions is not merely academic. It bears directly on how psychiatric disorders are understood, researched, and treated. A pure physicalist approach will emphasize neurobiological research and pharmacological treatment. A functionalist approach will be more open to computational modeling and cognitive therapies. A phenomenological approach will prioritize the patient's subjective experience and will be cautious about any account of mental disorder that bypasses the first-person perspective. In practice, as Karl Jaspers recognized, the clinician needs to operate across all these levels simultaneously, and the challenge is to integrate them without reducing any one to another.

3.3 The Concept of Causation in Psychiatry

Understanding causation is central to psychiatric practice: we want to know what causes mental disorders so that we can prevent and treat them. But causation in psychiatry is considerably more complex than in many other branches of medicine, and this complexity deserves explicit attention.

In contemporary psychiatry, mental disorders are said to be "multi-factorial": caused by the interaction of multiple biological, psychological, and social factors. This is almost certainly true, but it is not a very precise statement. To say that schizophrenia is caused by a combination of genetic vulnerability, prenatal insults, early childhood adversity, cannabis use, and social factors like urbanicity and migration is accurate as far as it goes, but it does not tell us how these factors interact, what proportion of cases are attributable to each, or what the specific mechanisms are through which any of these factors exerts its effect.

The philosopher of medicine Kenneth Schaffner has argued that psychiatry faces a particular challenge with respect to causation because psychiatric disorders are characterized by what he calls "heterogeneity at multiple levels": different patients with the same diagnosis may have different underlying causes, different neural mechanisms, different symptom profiles, and different responses to treatment. This heterogeneity makes it very difficult to identify clear causal chains of the kind that are possible in, say, infectious disease (where a specific pathogen causes a specific disease through well-understood mechanisms).

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The concept of "diathesis-stress" or "vulnerability-stress" model has been influential in psychiatry as a way of conceptualizing the interaction between predisposing vulnerability (biological and psychological) and precipitating stress (environmental and social). On this model, a mental disorder occurs when an individual's vulnerability exceeds a certain threshold in the face of particular stressors. This model has the virtue of explaining why two people exposed to the same stressor (say, the death of a close relative) may have very different psychological responses, and why some people develop mental disorders without any obvious precipitating event. It has the limitation of being somewhat circular and of not specifying the mechanisms through which vulnerability and stress interact.

The epigenetic revolution has added an important dimension to our understanding of causation in psychiatry. Epigenetics refers to changes in gene expression that do not involve changes in the DNA sequence itself, but that can be heritable and can be influenced by environmental factors. It is now established that early adversity, including childhood abuse and neglect, can produce lasting epigenetic changes that affect the functioning of stress-response systems and increase the risk of mental disorders in later life. This research suggests that the nature-nurture debate, which has been such a prominent feature of discussions of mental illness causation, is in many ways a false dichotomy: genes and environment interact at the molecular level, and the distinction between "biological" and "psychosocial" causes is less clear than it appears.

3.4 Anti-Psychiatry: The Radical Critique and Its Enduring Relevance

No account of the philosophical foundations of psychiatry would be complete without addressing the tradition of "anti-psychiatry," the critical movement that flourished in the 1960s and 1970s and that challenged the legitimacy of psychiatry as a medical discipline and as a social institution. The anti-psychiatry movement was not a unified intellectual school; it encompassed a variety of thinkers with different arguments and different political orientations. But it raised questions that remain genuinely important and that the field has not always answered satisfactorily.

Thomas Szasz, a Hungarian-American psychiatrist writing in the 1960s, argued that "mental illness" was a myth: that the conditions psychiatry called mental illnesses were not genuine diseases of the brain but were instead problems of living that were better understood in terms of moral and social concepts rather than medical ones. Szasz was particularly concerned about the use of psychiatric power to involuntarily commit individuals to psychiatric institutions, which he regarded as a form of social control masquerading as medical treatment. His arguments about civil liberties, patient rights, and the coercive dimensions of psychiatry were politically influential in the reform of mental health law in several countries.

R.D. Laing, a Scottish psychiatrist, offered a different but related critique. In books like "The Divided Self" (1960) and "Sanity, Madness and the Family" (1964), Laing argued that schizophrenia was not simply a brain disease but was better understood as a rational response to an unlivable situation, particularly the impossible double-binds created by dysfunctional family communication. While Laing's specific claims about the family etiology of schizophrenia were subsequently questioned by research, his broader insistence on the meaningfulness of

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psychotic experience and the importance of the social context of psychiatric illness has remained influential.

Michel Foucault's historical work, particularly "Madness and Civilization" (1961), offered yet another perspective: a historical and sociological analysis of how the concept of madness has been constructed in Western societies and how the asylum has functioned as an institution of social normalization and exclusion. Foucault argued that the medicalization of madness in the nineteenth century was not simply a humanitarian advance but was a form of what he called "disciplinary power" that served to define and enforce the boundaries of normality.

The anti-psychiatry critique was in many ways excessive: it denied the reality of suffering, minimized the genuine benefits of effective treatment, and sometimes romanticized psychosis in ways that were unhelpful to those experiencing it. But it raised legitimate questions about the social functions of psychiatric diagnosis, the limits of psychiatric authority, the rights of psychiatric patients, and the ways in which definitions of mental illness can reflect and reinforce social power relations. These questions remain relevant today. In Bangladesh, they are particularly acute given the history of the colonial asylum, the persistence of stigma and social exclusion, the limited legal protections for people with mental illness, and the ongoing debates about the scope and limits of involuntary treatment.

3.5 The Social Determinants of Mental Health: A Public Health Perspective

The World Commission on Social Determinants of Health, reporting to the WHO in 2008, defined social determinants of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life." These forces and systems include economic policies and systems, education agendas, social norms, political systems, and governance structures. There is strong and consistent evidence that these social determinants profoundly influence mental health.

Poverty is among the most powerful social determinants of mental illness. The relationship between poverty and common mental disorders (depression and anxiety) is robust and bidirectional: poverty increases the risk of mental illness through pathways including chronic stress, food insecurity, lack of access to health care, exposure to violence and adversity, and the psychological toll of stigma and social exclusion. Mental illness, in turn, increases the risk of poverty by impairing functioning and earning capacity, disrupting family relationships, and incurring health care costs. This vicious cycle is particularly devastating in settings like Bangladesh, where poverty remains extensive and safety nets are limited.

Other social determinants that are particularly relevant in Bangladesh include gender inequality (women's mental health is profoundly shaped by their subordinate social position, their exposure to intimate partner violence, and the psychological effects of dowry demands and early marriage), educational deprivation, social isolation and loneliness, exposure to natural disasters and climate change, internal migration and urbanization, and the specific vulnerabilities of particular population groups including children, the elderly, people with disabilities, sex workers, and displaced and refugee populations.

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The public health approach to mental health insists that addressing the social determinants of mental illness is as important as, and in many contexts more important than, expanding clinical services. This does not mean that clinical services are unimportant; people with severe mental illness need and deserve access to effective treatment. But clinical treatment without attention to the social conditions that generate mental illness is like treating cholera patients while ignoring the contaminated water supply.

This public health perspective is central to the vision of this textbook. Throughout the text, we will return repeatedly to the social determinants of mental health in Bangladesh, to the policy and programmatic responses that are or should be in place to address them, and to the roles of health professionals, communities, policy-makers, and civil society in promoting mental health and preventing mental disorder.

3.6 Ethics in Psychiatry: Key Principles and Persistent Dilemmas

Psychiatric practice raises ethical questions of unusual complexity and intensity. The core principles of biomedical ethics, as formulated by Beauchamp and Childress in their influential "Principles of Biomedical Ethics" (first published in 1979), are autonomy (respect for the patient's right to make decisions about their own life and treatment), beneficence (acting in the patient's best interest), non-maleficence (avoiding harm), and justice (fair distribution of health resources and equitable treatment). These principles are relevant throughout medicine, but they take on particular forms and generate particular tensions in psychiatry.

The tension between autonomy and beneficence is the most pervasive ethical challenge in psychiatric practice. People with severe mental illness may make decisions that appear to violate their own expressed values or long-term interests (for example, refusing medications that have previously allowed them to function well, or engaging in risky behaviors during manic episodes). When is it appropriate to override a patient's expressed preferences in the name of their welfare? What criteria should be used to determine that a person lacks the capacity to make a particular decision? When is involuntary treatment justified? These questions do not have simple answers, and different ethical frameworks give different answers to them.

The informed consent process in psychiatry is more complex than in most branches of medicine, because the conditions being treated can impair the very capacities that informed consent is supposed to exercise: the capacity to understand information, to appreciate its relevance to one's own situation, to reason about alternatives, and to express a stable preference. The assessment of decision-making capacity is a core clinical skill in psychiatry, and it requires both technical knowledge and deep respect for the patient's personhood.

Questions of confidentiality are also particularly acute in psychiatry. Mental health information is among the most sensitive of personal data, and breaches of confidentiality can have devastating consequences for employment, relationships, and social standing. At the same time, there are situations in which maintaining confidentiality may conflict with the safety of the patient or third parties. The Tarasoff case in the United States (1976), in which the California Supreme Court held that a psychiatrist had a "duty to warn" a third party who was threatened by

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a patient, established an important precedent for how to navigate this tension, though the precise legal and ethical boundaries remain contested in many jurisdictions.

In Bangladesh, the ethical landscape of psychiatry is shaped by specific cultural and contextual factors. The tradition of family-centered decision-making means that family members are often involved in, and may claim authority over, treatment decisions in ways that can either support or override the patient's own preferences. The limited awareness of mental health conditions among both the public and health professionals can lead to delays in diagnosis and inappropriate treatment. The stigma associated with mental illness can lead to profound ethical failures, including the denial of employment, education, and social participation to people with mental disorders, the forced institutionalization of people who do not need it, and the exposure of people with mental illness to various forms of abuse and exploitation. These are not merely individual ethical failures but systemic ones that require systemic responses.

CHAPTER FOUR: THEORETICAL MODELS IN PSYCHIATRY - UNDERSTANDING THE FRAMEWORKS THAT GUIDE CLINICAL THINKING

4.1 The Importance of Theoretical Models

A theoretical model is an organized framework of concepts and principles that guides the way we understand and respond to a set of phenomena. In psychiatry, theoretical models shape everything: what we look for when we assess a patient, how we explain what we find, what treatments we recommend, and how we evaluate outcomes. Different models draw our attention to different aspects of the clinical situation and generate different hypotheses about causation, different priorities for investigation, and different approaches to treatment.

It is tempting, and common among medical students, to seek a single "correct" model that can be applied mechanically to every clinical situation. This is understandable, given the enormous cognitive demand of medical training and the reassurance that a clear framework provides. But it is a mistake. No single theoretical model captures the full complexity of psychiatric disorders, and the clinician who operates from a single model will systematically miss important aspects of patients' presentations and needs. The most skilled psychiatrists are those who can draw on multiple models flexibly, choosing the framework or combination of frameworks that best illuminates the particular clinical situation at hand.

This does not mean that all models are equally valid or that the choice among them is merely a matter of taste. Models can be evaluated by their empirical adequacy (how well do they account for the available evidence?), their explanatory power (how much do they illuminate?), their clinical utility (how much do they help clinicians make better decisions?), and their ethical implications (what vision of the patient and of the therapeutic relationship do they embody?). These evaluations are not always straightforward, and they are often contested. But they are important, and the capacity to engage in them critically is part of what it means to be an educated clinician.

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4.2 The Biomedical Model

The biomedical model is the framework that has dominated academic psychiatry in the late twentieth and early twenty-first centuries. It holds that mental disorders are, at their core, disorders of the brain: disruptions of neural circuits, neurochemical systems, or genetic programs that govern brain development and function. On this model, the primary task of psychiatry is to identify the biological substrates of mental disorders, to develop biological tests for their diagnosis, and to develop pharmacological or other biological interventions for their treatment.

The biomedical model has generated an enormous and productive research agenda. It has produced important insights into the neurochemistry of mood disorders (the roles of serotonin, norepinephrine, dopamine, and glutamate), the neural circuits involved in anxiety and fear (the amygdala, hippocampus, and prefrontal cortex), the genetic architecture of schizophrenia (multiple common variants of small effect, a few rare variants of large effect), and the brain changes associated with addiction (the mesolimbic dopamine system and its interactions with the prefrontal cortex). These insights have informed the development of pharmacological treatments that are effective for many patients.

However, the biomedical model has also significant limitations. Despite decades of intensive research, no biological test has been developed that can reliably diagnose any of the major psychiatric conditions. No clear single-gene or simple-circuit explanation has been found for any common psychiatric disorder. The "chemical imbalance" theory of depression, which claimed that depression was caused by a deficiency of serotonin or other monoamines and was corrected by SSRIs, has been shown to be a major oversimplification: the actual neurobiological picture is far more complex, and it is not clear that SSRIs work primarily by correcting a monoamine deficiency. The outcome of treatment for many psychiatric conditions has not substantially improved despite the explosion of neuroscientific knowledge, a point made explicitly in a 2024 review of the current state of psychopharmacology.

The biomedical model also has important limitations from a clinical and ethical perspective. It tends to locate the problem entirely within the individual, specifically within their brain, and can obscure the social and relational dimensions of mental illness. It can lead to a passive, medicalized stance in which the patient is the object of biological interventions rather than an active agent in their own recovery. And it can generate a reductionist approach to the person that fails to take seriously their subjective experience, their personal history, and the meaning of their symptoms.

4.3 The Biopsychosocial Model: Promise and Problems

The biopsychosocial model (BPSM), proposed by the American internist and psychiatrist George Engel in a landmark paper in Science in 1977, was explicitly developed as a response to the limitations of the purely biomedical model. Engel argued that no disease, and certainly no psychiatric disorder, could be adequately understood through biological factors alone, and that a complete account of health and illness required attention to psychological factors (including personality, emotional states, cognitive styles, and coping strategies) and social factors

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(including family relationships, social support, socioeconomic status, and cultural context) alongside biological ones.

The BPSM has been enormously influential in medical education and in psychiatry in particular. It has provided a justification for the inclusion of psychological and social assessment in clinical care, for the use of psychological treatments alongside pharmacological ones, and for attention to social factors in treatment planning. It is now the officially endorsed conceptual framework for psychiatry in most curricula and guidelines.

However, the BPSM has also been criticized on several grounds. As a framework, it is remarkably vague: it tells clinicians to consider biological, psychological, and social factors, but it does not specify how these factors interact, which are most important in any given case, or how they should be weighted in clinical decision-making. In practice, many clinicians invoke the BPSM as a rhetorical commitment while actually operating from a predominantly biological or predominantly psychological framework. The model can become a "biopsychosocial" label applied to what is essentially biological care with some social work add-ons.

A more fundamental critique is that the BPSM, while apparently holistic, actually preserves the separation between the biological, psychological, and social as distinct domains, rather than recognizing that they are deeply interpenetrating and that the boundaries between them are conventional and often misleading. For example, the experience of poverty is not merely a "social factor" that interacts with a separately existing biological system; poverty shapes biology directly through its effects on nutrition, stress hormones, inflammatory markers, and even gene expression. Conversely, biological factors like genetic temperament shape social environments by influencing the kinds of relationships and contexts that individuals seek out and create. The real challenge for psychiatry is not to add up biological, psychological, and social factors but to develop a genuinely integrated account in which these dimensions are understood as aspects of a single complex phenomenon rather than as separate inputs to a linear model.

A 2025 paper in a leading psychiatry journal argued that what is needed is not simply a better biopsychosocial model but a new framework informed by complexity theory, network science, and systems biology that can represent the genuinely emergent and dynamic character of mental health and mental disorder. This is an aspiration that the field is still in the early stages of realizing.

4.4 The Psychodynamic Model

The psychodynamic model derives from the psychoanalytic tradition of Freud, and from the subsequent developments of that tradition by figures like Carl Jung, Alfred Adler, Melanie Klein, Donald Winnicott, John Bowlby, and Heinz Kohut. It is concerned with the unconscious dimensions of mental life: the ways in which experiences, emotions, and conflicts that are not accessible to conscious awareness nonetheless shape thoughts, feelings, behaviors, and symptoms.

Several concepts from psychodynamic theory are clinically important and have survived the various critiques of the broader psychoanalytic framework. The concept of defense mechanisms,

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first systematized by Anna Freud, refers to the automatic psychological strategies that people use to manage anxiety and to protect themselves from awareness of threatening thoughts, feelings, and impulses. Defenses range from relatively primitive mechanisms (such as denial, projection, and splitting) to more mature ones (such as sublimation, humor, and altruism). The recognition of a patient's defensive style can help the clinician understand apparently puzzling or maladaptive behavior.

Attachment theory, developed by John Bowlby in the 1960s and 1970s and subsequently extended and empirically tested by Mary Ainsworth and others, has become one of the most empirically productive offspring of the psychodynamic tradition. Bowlby proposed that human beings have an innate system for forming and maintaining close emotional bonds with caregivers, and that the quality of early attachment relationships profoundly shapes the development of the person's capacity for emotional regulation, interpersonal relationships, and mental health. Extensive research has established that insecure or disorganized attachment patterns in infancy are associated with increased risk of depression, anxiety, and personality disorders in later life. Attachment-informed approaches are now incorporated into a wide range of psychotherapeutic interventions.

The concept of transference, the tendency to experience current relationships in terms of patterns derived from early significant relationships, is clinically important in the therapeutic relationship and in understanding the patient's interpersonal difficulties. Similarly, the concept of countertransference, the clinician's emotional response to the patient, is understood in modern psychodynamic practice not as a problem to be eliminated but as important clinical information about what is happening in the therapeutic relationship.

In Bangladesh, psychodynamic concepts are not routinely taught or applied in psychiatric practice, reflecting the limited infrastructure for psychotherapy training and the resource constraints of the health system. However, the underlying insights, about the importance of early experience, the role of unconscious processes, the significance of the therapeutic relationship, and the value of exploring the meaning of symptoms, are relevant to good clinical practice in any cultural context, and there is growing interest in developing culturally adapted psychotherapeutic approaches for use in Bangladesh.

4.5 The Cognitive-Behavioral Model

The cognitive-behavioral model is currently the most empirically supported psychological framework in psychiatry and forms the basis of cognitive-behavioral therapy (CBT), which is the most widely studied and most broadly effective psychotherapeutic approach. The cognitive-behavioral model holds that psychological distress and mental disorder are maintained by characteristic patterns of cognition (ways of thinking) and behavior (ways of acting) that are self-perpetuating and that interact with emotional states.

The cognitive dimension of the model derives primarily from the work of Aaron Beck, who in the 1960s developed cognitive therapy as a treatment for depression. Beck proposed that depression was associated with characteristic "cognitive distortions": systematic errors in thinking, such as catastrophizing (imagining the worst possible outcome), overgeneralization (drawing broad

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negative conclusions from single events), and selective abstraction (focusing on negative aspects of experience while ignoring positive ones). These distorted patterns of thinking were organized around what Beck called the "cognitive triad" of negative views of the self, the world, and the future. The goal of cognitive therapy was to help patients identify and challenge their distorted thoughts, and to develop more accurate and adaptive ways of interpreting their experience.

The behavioral dimension of the model derives from learning theory, particularly the principles of classical and operant conditioning developed by Pavlov and Skinner respectively. Behavioral approaches to psychiatric disorders emphasize the role of avoidance in maintaining anxiety (avoiding feared situations prevents the natural extinction of fear responses and perpetuates the anxiety cycle), the role of behavioral activation in maintaining depression (reducing engagement with rewarding activities maintains low mood), and the role of reinforcement in shaping and maintaining a wide range of behaviors.

The integration of cognitive and behavioral approaches in CBT has produced a highly flexible and adaptable framework that has been applied to an extraordinary range of conditions, including depression, anxiety disorders, OCD, PTSD, eating disorders, substance use disorders, psychosis, and personality disorders. CBT is now available in multiple formats, including individual and group therapy, self-help books and workbooks, and digital formats delivered via smartphone apps or web-based platforms.

In Bangladesh, CBT is gradually becoming available through training programs for psychologists and psychiatrists. Several pilot projects have tested simplified, culturally adapted forms of CBT for depression and anxiety in primary care settings, with promising results. The challenge of developing culturally adapted psychological therapies for Bangladesh, including attention to local idioms of distress, the role of the family, and the spiritual dimensions of experience, is an active area of research and clinical development.

4.6 The Stress-Vulnerability Model and the Diathesis-Stress Framework

The stress-vulnerability model is a framework for understanding why some individuals develop mental disorders in response to stressors that others tolerate without apparent ill effect. It proposes that each individual has a level of vulnerability to developing a particular mental disorder, based on a combination of genetic factors, early developmental experiences, neurobiological characteristics, and psychological traits. When the combination of this vulnerability and the level of experienced stress exceeds a certain threshold, a mental disorder develops.

This model has several important clinical implications. It suggests that mental disorders are not determined simply by external events or by internal constitution alone, but by the interaction between them. It explains individual differences in response to stressful situations. It implies that therapeutic interventions can work at multiple points: by reducing current stressors, by building stress-coping capacities, and by addressing underlying vulnerabilities. And it has implications for prevention: if vulnerability factors can be identified early and protective factors can be strengthened, it may be possible to prevent the onset of mental disorders in high-risk individuals.

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The concept of resilience, which has become increasingly prominent in mental health research and practice, can be understood within the stress-vulnerability framework as referring to the factors that reduce vulnerability or enhance the capacity to cope with stress without developing mental disorder. Research on resilience has identified a range of factors that protect mental health in the face of adversity, including strong social support networks, effective emotional regulation skills, a sense of self-efficacy, and access to material resources. In Bangladesh, where exposure to adversity is extensive, the understanding and promotion of resilience is a particularly important public health priority.

The stress-vulnerability model has been refined and extended in important ways by the concept of "allostatic load," developed by Bruce McEwen and others. Allostatic load refers to the cumulative biological cost of chronic stress: the wear and tear on biological systems produced by repeated activation of the stress response over time. High allostatic load is associated with a range of adverse health outcomes, including cardiovascular disease, metabolic disorders, immune dysregulation, and mental disorders. In contexts of chronic poverty, social inequality, and repeated exposure to natural disasters and other adversities, allostatic load may be particularly high, contributing to the elevated prevalence of mental disorders observed in such contexts.

4.7 The Recovery Model and Its Significance

The recovery model represents a fundamental reconceptualization of the goal and nature of psychiatric treatment. Rather than defining recovery as the elimination of symptoms or the return to pre-illness functioning (what is sometimes called "clinical recovery"), the recovery model as developed by mental health survivors, researchers, and policy-makers defines recovery as a deeply personal, unique process of changing one's attitudes, values, feelings, goals, skills, and roles. Recovery is a process of living a satisfying, hopeful, and contributing life even within the limitations caused by illness. The emphasis shifts from cure (which for many people with severe and persistent mental illness is not achievable) to a meaningful life in the community.

The recovery model draws on the experiential knowledge of people who have experienced mental illness themselves, and on the growing body of research showing that, contrary to older psychiatric assumptions, many people with schizophrenia and other severe mental disorders improve substantially over time, often without achieving full symptomatic remission. Long-term follow-up studies, including the pioneering work of Courtenay Harding and colleagues in Vermont and John Strauss and William Carpenter, have shown that a substantial proportion of people diagnosed with schizophrenia in early adulthood achieve good functional outcomes by middle age.

The recovery model has important implications for service design, clinical practice, and policy. It implies that services should be organized around the goals and priorities of service users rather than primarily around clinical definitions of need. It implies that the social dimensions of recovery, specifically employment, housing, social relationships, and community participation, are as important as symptom management. It implies that the relationship between clinicians and service users should be collaborative and empowering rather than paternalistic and directive.

And it implies that people with lived experience of mental illness should be involved at every level of service design, implementation, and evaluation.

In Bangladesh, the recovery model is not yet widely adopted in practice, but its principles are gradually gaining recognition. The involvement of people with lived experience in mental health advocacy and service development is growing, partly through the work of non-governmental organizations and consumer groups. The challenge is to translate the principles of the recovery model into practical service arrangements that are feasible within Bangladesh's resource and cultural context.

4.8 Precision Psychiatry: The Emerging Paradigm

The most recent and in some ways the most transformative development in psychiatric theory is the emergence of precision psychiatry, sometimes also called personalized psychiatry. This approach draws on developments in genomics, neuroimaging, computational biology, and data science to develop methods for predicting, with greater precision than is currently possible, which treatments will be most effective for which patients.

As a 2025 paper in Molecular Psychiatry by Comai and colleagues summarized, precision psychiatry aims to improve routine clinical practice by integrating biological, clinical, and environmental data. The vision is of a psychiatric practice in which treatment decisions are guided not solely by diagnostic category (which, as we have seen, encompasses enormous heterogeneity) but by individual biological and clinical profiles. A patient with major depression, for example, might have their genome sequenced, their blood analyzed for inflammatory markers, their brain imaged, and their symptom profile assessed with validated instruments, and this information combined to predict whether they will respond better to an SSRI, a norepinephrine reuptake inhibitor, a psychotherapy, or some combination of approaches.

The Precision Psychiatry Roadmap, coordinated by the European College of Neuropsychopharmacology following its 2024 New Frontiers Meeting, proposes to integrate symptomatic, biological, and behavioral information into the definition and treatment of mental disorders, moving beyond current symptom-based classifications toward "biology-informed" frameworks. This initiative reflects a growing consensus that current diagnostic categories are not adequate as the basis for research or clinical decision-making, and that progress requires a more fundamental reconceptualization of what psychiatric diagnoses are and what information should guide treatment.

In parallel, the concept of "stratified psychiatry" is emerging as a practical intermediate step toward precision psychiatry. Rather than aiming for fully individualized treatment decisions, stratified psychiatry aims to identify subgroups of patients who share biological characteristics (endophenotypes, biomarkers, genetic profiles) and who may respond similarly to particular treatments. This approach has shown promise in several areas, including the identification of inflammatory subtypes of depression that may respond to anti-inflammatory treatments, and the identification of specific genetic variants that affect the metabolism of psychiatric medications and should guide dosing decisions.

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For Bangladesh, the practical implications of precision psychiatry in the near term are limited by the resource constraints of the health system. Whole-genome sequencing, sophisticated neuroimaging, and complex biomarker panels are not feasible for routine clinical use in Bangladesh at present. However, the principles of precision psychiatry, such as taking individual variation seriously, using all available clinical and biological information to guide treatment decisions, and recognizing the heterogeneity within diagnostic categories, are relevant even in resource-limited settings. Moreover, as costs continue to fall and access to technology improves, elements of precision psychiatry may become progressively more accessible in Bangladesh over the coming decades.

CHAPTER FIVE: THE BANGLADESH CONTEXT - HISTORICAL, CULTURAL, SOCIAL, AND EPIDEMIOLOGICAL FOUNDATIONS

5.1 Bangladesh: A Country in Transformation

Bangladesh is one of the most extraordinary national stories of the late twentieth and early twenty-first centuries. Emerging from the 1971 Liberation War as an impoverished, conflict-ravaged, flood-prone nation that many predicted would be ungovernable and economically nonviable (Henry Kissinger's famous, and deeply unkind, dismissal of Bangladesh as an "international basket case" reflects the pessimism of the era), Bangladesh has undergone remarkable economic and social transformation in the intervening half-century. Life expectancy has risen from around 47 years in 1971 to over 72 years in 2024. Under-five mortality has fallen from over 200 per thousand live births to around 28. The proportion of the population living below the extreme poverty line has fallen from over 80 percent in the 1970s to around 5 percent today, though the poverty line debates are complex and middle-income poverty remains extensive. Literacy rates have risen dramatically, and the gender gap in education has been essentially closed, with girls actually outnumbering boys in secondary school enrollment. The country has demonstrated remarkable success in community-based public health programs, particularly in the areas of oral rehydration therapy, immunization, maternal and child health, and family planning.

These achievements are genuinely impressive and should not be minimized. But they coexist with persistent and serious challenges. Bangladesh remains a lower-middle-income country with a per capita GDP of around $2,700 in 2024. Inequality has increased sharply over the same period that absolute poverty has fallen, producing a society of striking contrasts between urban elites and the rural poor, between those who have benefited from the growth of the garment industry and remittances from abroad and those who have been left behind. The health system, while far better than it was, remains severely under-resourced, understaffed, and unevenly distributed, with a sharp contrast between the quality and availability of care in urban areas and rural ones.

Climate change represents an increasingly serious threat to Bangladesh's development gains. Bangladesh is among the countries most vulnerable to the effects of climate change: rising sea levels, increasing intensity and frequency of cyclones and floods, saltwater intrusion into

agricultural land, and the gradual inundation of low-lying coastal areas are already affecting millions of people and are projected to worsen significantly over the coming decades. The mental health consequences of climate-related disasters and of the slow-onset climate stresses associated with livelihood loss and forced migration are a major and growing public health concern.

The political environment of Bangladesh has been turbulent throughout its history. The Liberation War of 1971, in which an estimated 300,000 to 3 million people (the figures are contested) were killed in the Pakistani military's campaign against the Bengali independence movement, left profound psychological wounds that have not fully healed. The subsequent decades saw assassinations, military coups, political violence, and persistent political polarization. The student-led uprising of July-August 2024, which resulted in the resignation of the Sheikh Hasina government and a major political transition, reflected the deep frustrations of a young and increasingly educated population with corruption, political repression, and lack of opportunity. The mental health implications of this political turbulence, both historical and recent, deserve serious attention.

5.2 The Geography of Mental Health in Bangladesh

Bangladesh is a small country, covering approximately 148,000 square kilometers, but it is extraordinarily densely populated, with approximately 170 million people giving a population density of around 1,150 per square kilometer, one of the highest in the world for any country of its size. This density has important implications for mental health: it contributes to urban crowding and its associated stresses, reduces access to natural environments with their well-documented benefits for mental health, complicates the provision of private space for people with severe mental illness, and creates particular challenges for the management of contagious mental health problems associated with social media and information spread.

The country is divided into eight administrative divisions: Dhaka, Chittagong, Rajshahi, Khulna, Barisal, Sylhet, Mymensingh, and Rangpur. Dhaka, the capital city, is one of the most densely populated cities in the world, with a population of 20 to 22 million in the greater metropolitan area. The mental health challenges of Dhaka are in some respects urban in character: occupational stress, air and noise pollution, extreme heat (exacerbated by the urban heat island effect and climate change), traffic congestion and commuting time, social isolation despite crowding, and the particular vulnerabilities of slum dwellers, who make up a substantial fraction of the city's population.

The Chittagong Hill Tracts, in the southeast of the country, are home to a number of indigenous ethnic minority groups, including the Chakma, Marma, Tripura, and others. These communities have experienced protracted conflict, forced displacement, and cultural marginalization over several decades, and they face specific mental health challenges related to this history of trauma and ongoing social exclusion. The mental health services available to them are extremely limited.

The coastal areas of Bangladesh, particularly the Sundarbans region and the offshore islands, are exposed to a particularly high frequency of cyclones, storm surges, and flooding. The

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psychological impact of repeated exposure to these disasters, including PTSD, depression, grief, and the particular distress associated with the loss of land and livelihood, is well documented but poorly addressed by mental health services.

Cox's Bazar district, in the southeast of Bangladesh, is home to the largest refugee camp in the world: over one million Rohingya refugees who fled genocide in Myanmar, with the largest wave arriving in 2017. The mental health needs of this population are extraordinary: virtually all of them have been exposed to severe trauma including killing, rape, destruction of homes and communities, and forced displacement. They live in conditions of extreme overcrowding, with limited access to education, livelihood, and health care, and with profound uncertainty about their future. The mental health response to the Rohingya crisis, while more developed than in many refugee settings, remains grossly inadequate relative to the scale of need.

5.3 Epidemiology of Mental Disorders in Bangladesh

The epidemiological data on mental disorders in Bangladesh is limited but growing. The most comprehensive available data comes from the National Mental Health Survey Bangladesh 2019, conducted jointly by the Bangladesh Bureau of Statistics and the WHO, which used standardized instruments to assess the prevalence of mental disorders in a nationally representative sample of 7270 households.

This survey found that the prevalence of mental disorders in Bangladesh was substantial. The overall prevalence of any mental disorder (using ICD-10 criteria) was found to be approximately 16.8 percent among adults and 13.6 percent among children and adolescents. The most common conditions among adults were depression (5.2 percent point prevalence), anxiety disorders (4.1 percent), and substance use disorders (3.6 percent). Among children and adolescents, conduct disorders, attention deficit hyperactivity disorder, and emotional disorders were the most commonly identified conditions.

These figures, while representing the best available estimates, should be interpreted with several important caveats. First, epidemiological surveys of mental disorders are methodologically challenging, particularly in cultural contexts where the concepts underlying Western diagnostic instruments do not map neatly onto local understandings of distress. Instruments developed in Western settings may underestimate the prevalence of common mental disorders in Bangladesh if they are not adequately calibrated to local idioms of distress. Conversely, they may overestimate the prevalence of some conditions if culturally normative experiences are misclassified as symptoms.

Second, the survey data almost certainly underestimated the prevalence of mental disorders in some population groups, including the rural poor, women in purdah, people in slum settlements, the Rohingya refugee population, and indigenous communities. The methodological challenges of reaching these populations in representative surveys are substantial.

Third, the survey captured only the prevalence of individual mental disorders and did not assess the broader landscape of psychological suffering that may not meet formal diagnostic criteria

but nonetheless represents significant distress and impairment. The "iceberg" of psychological suffering in Bangladesh is almost certainly larger than the diagnosed tip.

Fourth, the data is now several years old, and there is good reason to believe that the prevalence of common mental disorders in Bangladesh has increased since 2019, given the COVID-19 pandemic, the deteriorating economic situation for many households, and the political turbulence of 2024. A 2025 study published in BMC Psychiatry, examining mental healthcare-seeking behavior in Bangladesh using the 2019 dataset, found a large treatment gap: the vast majority of people with mental disorders did not receive any form of care. The study found that less than 10 percent of those with a mental disorder had sought any form of mental health care, and that only a small fraction had received care from a mental health specialist.

The implications of this massive treatment gap are profound. Hundreds of thousands, if not millions, of Bangladeshis are living with mental disorders that are causing them significant suffering and impairment, without access to any effective treatment. The economic costs, in terms of lost productivity and increased use of general health services for medically unexplained symptoms, are enormous. The social costs, in terms of disrupted families, impaired child development, increased interpersonal violence, and reduced social participation, are equally large.

5.4 The Mental Health Treatment Gap: Understanding the Barriers

Understanding why the treatment gap is so large in Bangladesh requires analysis of barriers at multiple levels: individual, family, community, health system, and policy.

At the individual level, barriers to care include lack of knowledge about mental disorders and their treatability (mental health literacy), the internalization of stigma (the shame and self-blame that lead people to conceal their symptoms even from family members), the attribution of symptoms to physical or spiritual causes that leads people to seek physical medical care or traditional healing rather than mental health care, the economic cost of care (including both direct costs such as consultation fees and medicines, and indirect costs such as lost earnings during illness and the cost of accompanying family members to appointments), and geographical barriers in areas far from mental health services.

At the family level, barriers include fear of stigma and its consequences for the marriage prospects of the sick person and their siblings, lack of recognition of mental disorders as medical conditions, the burden of informal caregiving and its associated financial and emotional costs, and the preference for traditional healing approaches that do not require engagement with a stigmatizing medical system.

At the community level, barriers include the entrenched stigma and social exclusion associated with mental illness, which prevents people from seeking care out of fear of social rejection, and the influence of spiritual and religious frameworks that attribute mental illness to supernatural causes and prescribe spiritual remedies.

At the health system level, barriers include the extreme shortage of mental health professionals (Bangladesh has approximately 0.5 psychiatrists per 100,000 population, compared to a global average of 1.7 and a high-income country average of 9.0), the near-absence of mental health services in primary care, the concentration of available services in urban areas (primarily Dhaka and divisional headquarters), the absence of trained community mental health workers, the inadequate integration of mental health into general health care, and the chronic underfunding of mental health (mental health receives less than 0.5 percent of the total health budget in Bangladesh).

At the policy level, barriers include the long-standing neglect of mental health in national health policy, the absence of a comprehensive national mental health plan (the existing plan is outdated and poorly implemented), inadequate coordination between the ministries responsible for health, social welfare, and education, and the absence of effective mental health legislation protecting the rights of people with mental illness (the 2018 Mental Health Act is a step forward but has significant gaps).

5.5 Cultural Dimensions of Mental Illness in Bangladesh: Idioms of Distress, Explanatory Models, and Healing Practices

Culture shapes mental health at every level: the ways in which distress is experienced and expressed, the explanatory models through which people understand their suffering, the help-seeking pathways through which they seek relief, and the social responses (including both stigma and support) that they receive.

The concept of "idioms of distress" refers to culturally specific ways of experiencing and communicating psychological suffering. In Bangladesh, psychological distress is often expressed through somatic symptoms: headache, chest tightness, palpitations, weakness, pain in multiple body parts, and a sense of heat or burning in the body. This somatic expression of psychological distress is not unique to Bangladesh, it is found in many South Asian and other non-Western societies, and reflects both cultural norms about the acceptability of expressing emotional distress directly and the close relationship between psychological and physical experience that is recognized in many non-Western healing traditions.

One particularly important and well-studied idiom of distress in Bangladesh and other South Asian countries is "dhat syndrome," a term used to describe a cluster of symptoms, including weakness, fatigue, sexual dysfunction, and depression, attributed by the patient to the loss of semen (either through excessive masturbation, nocturnal emissions, or perceived loss through urine). Dhat syndrome reflects culturally specific beliefs about the importance of semen as a vital bodily fluid and the consequences of its loss. It is recognized in the ICD-11 as a "culture-specific disorder." Its management requires both cultural sensitivity and clinical skill, since it is often associated with genuine anxiety and depressive disorders that may respond to appropriate treatment.

The concept of "explanatory models," developed by the anthropologist and psychiatrist Arthur Kleinman, refers to the ideas that patients, families, and healers have about illness: its cause, its mechanism, its course, and its appropriate treatment. Explanatory models vary widely within

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any population and are not necessarily consistent or coherent; the same person may simultaneously hold a biomedical explanation, a spiritual explanation, and a folk explanation for their symptoms, without experiencing this as contradictory. Understanding the patient's explanatory model is a critical clinical skill, because it shapes help-seeking behavior, treatment adherence, and the patient's response to the therapeutic relationship.

In Bangladesh, spiritual and religious explanatory models are extremely common and powerful. Many people attribute mental symptoms, particularly psychosis, severe depression, and dissociative states, to possession by jinn (spirits recognized in Islamic belief as a class of supernatural beings that can cause illness and misfortune), to the evil eye (nazar), to black magic (kala jadu or baan), or to divine punishment for sin. These explanatory models are not simply the products of ignorance; they are embedded in sophisticated cosmological and theological frameworks that give them great explanatory power and cultural authority. They coexist with biomedical explanations in complex and variable ways, with many people and families moving between spiritual and biomedical explanations at different points in their illness trajectory.

The help-seeking pathway for mental illness in Bangladesh typically begins not with the formal mental health system but with informal resources within the family and community. When symptoms become severe or persistent, help is typically sought from a series of providers in a sequence that may include village doctors or palli chikitshak, general practitioners, traditional healers such as kabiraj and ojha, religious healers such as fakir and shrine-based practitioners, and finally, if all else has failed, a psychiatrist or other mental health professional. This plural help-seeking pattern is not irrational; it reflects a pragmatic search for effective relief across multiple healing systems, and it is important for mental health professionals to understand and engage with it rather than simply dismissing traditional healers as irrelevant or harmful.

Shrine-based healing deserves special attention in the Bangladeshi context. The dargahs (shrines of Sufi saints) scattered across Bangladesh serve as important sites of mental health care for many people. People with severe mental illness are often brought to shrines by their families in search of spiritual healing, and some shrines have established formal practices for the residential care of people with mental disorders. The conditions in some of these settings have been a matter of serious concern from a human rights perspective, with reports of chaining, inadequate food, and denial of medical care. However, the shrines also provide care and shelter for people who would otherwise receive no care at all, and the engagement of shrine-based healers in mental health care in ways that respect both their spiritual authority and basic standards of human rights and medical ethics is an important practical priority.

5.6 Gender and Mental Health in Bangladesh

Gender is one of the most powerful social determinants of mental health in Bangladesh. Women and men experience different mental disorders at different rates, have different help-seeking patterns, face different barriers to care, and are affected by different social risk factors.

Depression and anxiety disorders are more prevalent among women than men in Bangladesh, as in other South Asian countries. A major reason for this is the elevated exposure of women to

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social risk factors for these conditions, including intimate partner violence (IPV), which affects an estimated 55 to 70 percent of married women in Bangladesh according to national surveys, dowry-related harassment and violence, early and forced marriage, restricted mobility and social participation, economic dependence on husbands and in-laws, and the psychological consequences of repeated pregnancy, childbirth, and the care of young children under conditions of material deprivation.

IPV deserves particular attention as a risk factor for mental illness in Bangladeshi women. The evidence that IPV is associated with increased rates of depression, PTSD, suicidal ideation and behavior, and somatic symptom disorders is robust and consistent across many settings. In Bangladesh, where IPV is extremely prevalent and is often normalized within cultural frameworks that attribute authority over women's bodies and behavior to their husbands, the mental health consequences of IPV represent a massive and largely unaddressed burden of suffering.

Suicide deserves special attention in the context of women's mental health in Bangladesh. Several epidemiological studies have found unusually high rates of suicide and parasuicide (non-fatal self-harm) among young women in rural Bangladesh, with rates that are high compared not only to Bangladeshi men but to women in many other countries. Organophosphate pesticide ingestion is the most common method among rural women, reflecting both the accessibility of these agents in agricultural settings and their high case fatality rate. The psychological context of suicide in young Bangladeshi women is frequently one of intimate partner violence, dowry harassment, family conflict, social isolation, and a sense of entrapment with no viable means of escape.

Men in Bangladesh face their own specific mental health vulnerabilities, including high rates of substance use disorders, occupational stress (particularly among migrant workers in high-risk industries such as construction and garment manufacturing), and the psychological consequences of economic hardship. Men's lower rates of depression compared to women may partly reflect genuinely lower prevalence, but may also partly reflect underdiagnosis: men in Bangladesh, as in other South Asian societies, are less likely to present with emotional complaints and are more likely to express distress through somatic symptoms, substance use, or violence.

5.7 Children and Adolescents: Mental Health Across the Life Course

Children and adolescents represent approximately 40 percent of the population of Bangladesh, and their mental health is an increasingly important priority. The National Mental Health Survey Bangladesh 2019 found a prevalence of mental disorders among children and adolescents of approximately 13.6 percent, suggesting that over 10 million children and young people in Bangladesh are living with a mental disorder. The most common conditions among this age group were conduct disorders, emotional disorders (principally anxiety and depression), attention deficit hyperactivity disorder, and intellectual disability.

Several factors are particularly important for child and adolescent mental health in Bangladesh. Early childhood adversity, including poverty, parental mental illness, exposure to domestic

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violence, and child maltreatment (physical, emotional, and sexual abuse and neglect), is extremely common and is associated with elevated rates of mental disorders across the life course. The intersection of poverty and adversity in early childhood is particularly damaging: children in the poorest households are simultaneously most exposed to adverse experiences and least able to access the resources, including stimulation, nutrition, health care, and social support, that promote resilience.

Educational pressure is an increasingly significant source of stress for Bangladeshi children and adolescents, particularly in urban settings. The intense competition for places in good secondary schools and universities, combined with family expectations and the high stakes of examination performance, creates a pressure-cooker environment for many young people. Examination failure and its consequences, including family shame and the loss of life opportunities, has been identified as a precipitating factor in a substantial number of adolescent suicides.

Social media and digital technology represent both opportunities and risks for the mental health of Bangladeshi adolescents. Smartphone penetration among young people in Bangladesh has increased dramatically in recent years, and social media platforms including Facebook, TikTok, and YouTube are widely used. The well-documented associations between heavy social media use and depression, anxiety, body image concerns, and cyberbullying are relevant to Bangladesh, though the specific dynamics in the Bangladeshi context have been less studied than in high-income countries.

The COVID-19 pandemic had particularly severe consequences for children and adolescents in Bangladesh. School closures lasting over a year disrupted the education of millions of children, widening existing inequalities between children from advantaged and disadvantaged backgrounds. Social isolation during lockdowns deprived many children of the social interaction that is essential for healthy development. Economic hardship within families created stress and conflict that affected children's well-being. And the disruption of health services meant that children with existing mental health conditions were particularly likely to fall through the cracks.

5.8 Older Adults: An Emerging Mental Health Priority

The population of Bangladesh is aging. While Bangladesh remains a relatively young country by global standards, the proportion of older adults (defined as those over 60 years of age) is increasing as the generation born during the high-fertility years of the 1960s and 1970s reaches old age. This demographic shift is creating new mental health challenges that the health system is poorly prepared to address.

Depression is the most common mental disorder among older adults globally, and Bangladesh is no exception. Depression in older adults in Bangladesh is associated with a range of specific risk factors including widowhood (particularly for women), physical illness and disability, financial insecurity, social isolation, loss of social roles, and inadequate social support from adult children who may be working in cities or abroad. Depression in older adults in Bangladesh is frequently unrecognized and untreated, partly because its presentation often overlaps with other conditions (including the somatic symptoms of physical illness), partly because depression in old

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age is often normalized as a natural consequence of aging, and partly because older adults themselves may not conceptualize their distress in terms that prompt help-seeking.

Dementia represents a rapidly growing burden in Bangladesh and other low- and middle-income countries. As life expectancy increases, the number of people living with dementia will rise substantially over the coming decades. Alzheimer's disease is the most common form of dementia globally, but vascular dementia is also common, and it is particularly prevalent in populations with high rates of stroke and cardiovascular risk factors (hypertension, diabetes, and dyslipidemia are all highly prevalent in Bangladesh). The care of people with dementia in Bangladesh falls almost entirely on families, with no formal community or institutional support. As family structures change, with increased nuclear family formation and out-migration of adult children, the capacity of families to provide this care is diminishing.

5.9 The Mental Health Workforce in Bangladesh

Bangladesh has a severely inadequate mental health workforce. Accurate figures are difficult to obtain, but estimates suggest that the country has approximately 250 to 350 psychiatrists, around 300 to 500 clinical psychologists (though many of these are in academic rather than clinical roles), and a small and largely inadequately trained workforce of psychiatric nurses and social workers. This gives a ratio of approximately 0.2 to 0.3 psychiatrists per 100,000 population, far below the recommended minimum of 1 per 100,000 and vastly below the ratios achieved in high-income countries.

The distribution of this workforce is highly unequal. The great majority of psychiatrists and psychologists are concentrated in Dhaka, with much smaller numbers in other divisional headquarters and almost none at the district level or below. This means that for people living in rural areas, which still accounts for about 60 to 65 percent of the population, access to a specialist mental health professional is extremely difficult and expensive to obtain.

Training pathways for mental health professionals in Bangladesh are improving but remain inadequate. The MD (Psychiatry) postgraduate program at the Bangabandhu Sheikh Mujib Medical University (BSMMU) is the primary training route for psychiatrists, along with the FCPS (Psychiatry) qualification of the Bangladesh College of Physicians and Surgeons. The total output of trained psychiatrists per year is small relative to the need. Clinical psychology training is available at BSMMU and a few other institutions, but the number of trained clinical psychologists remains low and the training program has historically been more academically than clinically oriented.

The training of non-specialist health workers in mental health recognition and management, specifically the task-sharing approach recommended by the global mental health movement and operationalized in the mhGAP guidelines, represents the most promising approach to expanding mental health care coverage in Bangladesh. Pilot projects have demonstrated the feasibility of training primary care physicians, community health workers (shasthya shabikas and shasthya kormiis of the community health worker program), and nurses in basic mental health assessment and treatment, with positive results for patient outcomes. The challenge is to scale these pilot

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projects into a comprehensive national system, which requires sustained political commitment, substantial investment, and organizational change in the primary care system.

5.10 Mental Health Policy and Legislation in Bangladesh

Bangladesh's mental health policy landscape has changed significantly in recent years. The replacement of the Lunacy Act of 1912 by the Mental Health Act 2018 was an important milestone. The 2018 Act introduced a more rights-based framework for psychiatric care, with explicit provisions for the protection of the rights of persons with mental illness, including the right to information about their condition and treatment, the right to refuse treatment (with some limitations), the right to confidentiality, and the right to be free from discrimination. The Act also mandated the establishment of a National Mental Health Authority to regulate the provision of mental health services.

However, the 2018 Act also has significant limitations. Several of its provisions remain inconsistent with international human rights standards, particularly those related to involuntary hospitalization and treatment. The definition of "mental illness" in the Act is broad and could potentially encompass forms of behavior that are not genuinely psychiatric conditions. The provisions for legal safeguards for people subject to involuntary treatment are weaker than those in the mental health legislation of many other countries. And the implementation of the Act has been slow and uneven, with the National Mental Health Authority not yet fully operationalized.

Bangladesh developed its first National Mental Health Policy in 2006 and a National Mental Health Strategic Plan in 2020-2030. The Strategic Plan sets out ambitious goals for the expansion of mental health services, the integration of mental health into primary care, the reduction of stigma, and the development of community-based services. However, implementation has been hampered by inadequate funding, weak institutional capacity, and insufficient political prioritization. Mental health continues to receive less than 0.5 percent of the total health budget, compared to a recommended minimum of 5 percent for low-income countries.

The National Mental Health Survey of 2019 was an important step toward generating the evidence base needed for effective policy-making. The 2025 BMC Psychiatry study that analyzed its data on care-seeking behavior highlighted the enormity of the treatment gap and identified specific barriers to care that need to be addressed. Going forward, the development of a functional mental health information system that can track the prevalence of mental disorders, the coverage of services, and the outcomes of treatment will be essential for evidence-based policy development.

5.11 Non-Governmental Organizations and Mental Health in Bangladesh

The non-governmental sector plays an important and growing role in mental health in Bangladesh, partly compensating for the gaps in government provision. A number of NGOs provide mental health services, conduct community-based mental health programs, carry out advocacy, and develop innovative approaches to mental health care.

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NIMH (National Institute of Mental Health), while technically a government institution, works in close partnership with NGOs and with international organizations. The Kaan Pete Roi program, modeled on the Samaritans model of the United Kingdom, provides an emotional support telephone helpline for people in distress. Several international NGOs, including the International Committee of the Red Cross, Médecins Sans Frontières, and UN agencies, have been involved in providing mental health services to the Rohingya refugee population in Cox's Bazar.

The challenge for the NGO sector in mental health is one of scale and sustainability. Most NGO programs operate in limited geographic areas, reach a relatively small number of beneficiaries, and depend on external funding that may be uncertain from year to year. Integrating successful NGO models into the government health system, in ways that ensure their quality and sustainability, is a major organizational and political challenge.

CHAPTER SIX: NEUROSCIENCE FOUNDATIONS - THE BRAIN, BEHAVIOR, AND MENTAL ILLNESS

6.1 Why Neuroscience Matters for Psychiatry

Modern psychiatry cannot be practiced in ignorance of neuroscience. The brain is the organ of the mind, and disorders of the mind are disorders of the brain in the sense that they involve abnormalities of brain structure, function, or both. This does not mean that all relevant questions about mental illness can be answered by neuroscience, or that neuroscience is more important than psychology, social science, or ethics in understanding mental disorders. But it does mean that a psychiatrist who does not understand the basic neuroscience of the conditions they treat is not adequately equipped for their work.

Over the past three decades, the development of powerful new tools for studying the living human brain, including functional magnetic resonance imaging (fMRI), positron emission tomography (PET), magnetoencephalography (MEG), electroencephalography (EEG), and transcranial magnetic stimulation (TMS), has produced an explosion of neuroscientific knowledge about the brain basis of psychiatric conditions. Alongside these imaging advances, progress in genomics, molecular biology, and computational neuroscience has opened new windows onto the cellular and molecular mechanisms of psychiatric disorders.

At the same time, and as noted earlier, this extraordinary investment in neuroscientific research has not yet produced the transformative improvements in treatment that were promised. The challenge of "translation," of moving from mechanistic insights to clinical applications, has proved much more difficult than anticipated. This is partly because psychiatric disorders are not simple disorders of single circuits or molecules, but complex phenomena emerging from the interaction of multiple systems at multiple levels of organization.

6.2 Basic Neuroanatomy for Psychiatry

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A working knowledge of neuroanatomy is essential for understanding the biological basis of psychiatric conditions. The following overview focuses on the structures and systems most relevant to psychiatry.

The cerebral cortex, the outermost layer of the brain, is organized into four lobes: frontal, parietal, temporal, and occipital. The frontal lobes are particularly important for psychiatry, as they are responsible for executive functions including planning, decision-making, impulse control, and social behavior. The prefrontal cortex, the most anterior part of the frontal lobe, is the site of the brain's most complex cognitive and social functions, and abnormalities in prefrontal structure and function have been found in a wide range of psychiatric conditions, including schizophrenia, depression, OCD, and personality disorders. The temporal lobes are important for language, memory (through their relationship to the hippocampus), and emotional processing (through their relationship to the amygdala). The parietal lobes are primarily involved in sensory processing and spatial cognition. The occipital lobes are primarily visual.

The limbic system is a group of brain structures particularly important for emotion, memory, and motivation. The key structures of the limbic system include the amygdala, which plays a central role in fear responses, emotional learning, and the processing of emotionally salient stimuli; the hippocampus, which is critical for the formation of new memories and for spatial navigation; the hypothalamus, which regulates basic physiological functions including hunger, thirst, temperature, and the stress response; and the cingulate cortex, which is involved in attention, error monitoring, and pain processing and has been particularly implicated in depression and OCD.

The basal ganglia are a group of subcortical nuclei (the striatum, pallidum, substantia nigra, and subthalamic nucleus) that play a critical role in the selection and execution of voluntary movements and in habit formation and reward-based learning. The basal ganglia are a key node in the brain circuits that process reward and motivation, and they are central to the neuroscience of addiction. Abnormalities in basal ganglia function have been found in schizophrenia (particularly in the relationship between the striatum and dopamine), OCD, and Tourette syndrome.

The brainstem contains the nuclei of origin of several neurotransmitter systems that project widely throughout the brain and that are critically important for psychiatry: the raphe nuclei (the principal source of serotonin), the locus coeruleus (the principal source of norepinephrine), the ventral tegmental area and substantia nigra (the principal sources of dopamine in circuits relevant to reward and to motor control respectively), and the nucleus basalis (the principal source of acetylcholine). Perturbations in these systems underlie many of the effects of psychiatric medications.

6.3 Key Neurotransmitter Systems in Psychiatry

Neurotransmitters are the chemical messengers through which neurons communicate with each other across synapses. Understanding the major neurotransmitter systems is essential for understanding both the mechanisms of psychiatric conditions and the actions of psychiatric medications.

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Dopamine is involved in a wide range of functions including reward, motivation, motor control, and executive function. The mesolimbic dopamine system, which projects from the ventral tegmental area to the nucleus accumbens and other limbic structures, is the core of the brain's reward system and is critically involved in addiction. The mesocortical dopamine system, which projects from the ventral tegmental area to the prefrontal cortex, is important for executive function and is implicated in the cognitive symptoms of schizophrenia. The dopamine hypothesis of schizophrenia proposes that positive symptoms of psychosis arise from dopaminergic hyperactivity in mesolimbic circuits, and this hypothesis, though oversimplified, provides the mechanistic basis for the antipsychotic effect of dopamine receptor antagonists.

Serotonin is involved in the regulation of mood, sleep, appetite, and impulse control, among many other functions. The serotonin system has been most prominently associated with depression and anxiety disorders, partly through the success of SSRIs (which increase synaptic serotonin by blocking its reuptake) in treating these conditions. However, as noted earlier, the simple "serotonin deficiency" theory of depression has been substantially revised; serotonin is one of many neurochemical systems involved in depression, and its role is likely modulatory rather than directly causal.

Norepinephrine (noradrenaline) is involved in arousal, attention, and the stress response, and it plays a role in both mood disorders (its role in depression prompted the development of norepinephrine-focused antidepressants like tricyclics and SNRIs) and anxiety disorders. The locus coeruleus, the primary source of norepinephrine in the brain, is a critical node in the brain's stress-response system and is implicated in the hyperarousal of PTSD.

Glutamate is the principal excitatory neurotransmitter in the brain, and it plays a central role in synaptic plasticity, learning, and memory. The glutamate system has become increasingly important in psychiatric neuroscience: NMDA receptor hypofunction has been proposed as a mechanism in schizophrenia (based partly on the psychotomimetic effects of NMDA receptor antagonists like ketamine and PCP), and ketamine's rapid antidepressant effect in treatment-resistant depression has generated enormous interest in glutamatergic mechanisms of depression. Esketamine (a ketamine isomer) has been approved by the US FDA and other regulatory agencies as a treatment for treatment-resistant depression and is beginning to be used in some countries.

GABA (gamma-aminobutyric acid) is the principal inhibitory neurotransmitter in the brain. The benzodiazepines, which are among the most widely used psychiatric drugs globally, work by enhancing GABA-mediated inhibition. The GABA system is implicated in anxiety disorders, and there is growing interest in GABAergic mechanisms in schizophrenia and other conditions.

6.4 Neuroplasticity and Its Implications for Psychiatry

One of the most important conceptual developments in neuroscience over the past three decades is the recognition that the brain is not a fixed structure but a highly dynamic one that changes continuously in response to experience. This property, called neuroplasticity, includes synaptic plasticity (changes in the strength of connections between neurons), structural plasticity (changes in the number and morphology of neurons and their processes), and neurogenesis (the

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birth of new neurons, which occurs throughout life in at least one brain region, the hippocampus, in humans).

Neuroplasticity has profound implications for psychiatry. It means that the brain can, in principle, recover from the effects of mental illness, injury, or adverse experience, and that interventions (whether pharmacological or psychological) can change brain structure and function in lasting ways. The evidence that psychotherapy produces measurable changes in brain structure and function, similar in some respects to the changes produced by medication, is one of the most compelling demonstrations of the inseparability of the psychological and the biological.

At the same time, neuroplasticity also means that adverse experiences can have lasting effects on brain structure and function. The evidence that chronic stress, early adversity, and trauma produce measurable changes in hippocampal volume, amygdala reactivity, and prefrontal cortical thickness is now substantial, and these changes may underlie the increased risk of depression, anxiety, and PTSD associated with adversity. Understanding these mechanisms has important implications for prevention (reducing exposure to adversity), for treatment (developing interventions that promote adaptive neuroplasticity), and for the political economy of health (the reduction of social inequalities that generate exposure to adversity is, among other things, a public mental health intervention).

6.5 Genetics and Epigenetics of Psychiatric Disorders

The role of genetic factors in psychiatric disorders is well established, though the specific mechanisms are far more complex than early theories suggested. Family, twin, and adoption studies consistently show that the major psychiatric disorders, including schizophrenia, bipolar disorder, major depression, autism spectrum disorder, and ADHD, have significant genetic contributions, with heritability estimates ranging from approximately 40 percent for major depression to approximately 80 percent for schizophrenia and bipolar disorder.

However, the search for specific genes responsible for psychiatric disorders has proved much more difficult than initially hoped. The hypothesis that each major psychiatric disorder would be found to be caused by a small number of common genetic variants, each of large effect, has been largely falsified by the massive genome-wide association studies (GWAS) of the past decade. Instead, what has emerged is a picture of enormous genetic complexity: thousands of common variants, each of tiny effect, together account for a substantial fraction of the genetic risk for schizophrenia, depression, and other disorders. A small number of rare variants, typically copy number variants (deletions or duplications of segments of DNA) or de novo mutations (mutations not inherited from either parent), account for a smaller but important fraction of risk for conditions including schizophrenia and autism.

The polygenic risk score (PRS) is a computational tool that aggregates the effects of thousands of common genetic variants to estimate an individual's inherited genetic propensity for a particular condition. PRS can already predict a meaningful fraction of the variance in the risk of schizophrenia, bipolar disorder, and major depression, though their predictive power at the individual level remains insufficient for clinical use. As GWAS samples grow larger and analytical methods improve, PRS will become more powerful, and there is genuine hope that

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PRS may eventually contribute to personalized treatment selection in psychiatry, for example by identifying individuals with particular genetic profiles who are likely to respond to specific medications.

Epigenetics refers to changes in gene expression that do not involve changes in the DNA sequence. Epigenetic mechanisms include DNA methylation, histone modification, and non-coding RNA regulation, and they provide a molecular mechanism through which environmental experiences can produce lasting changes in gene expression. The evidence that early adversity, including childhood abuse and neglect, produces lasting epigenetic changes in systems involved in stress regulation is now substantial, and these changes may partly explain the long-term mental health consequences of early adversity. Importantly, some epigenetic changes may be reversible by appropriate interventions, suggesting that the effects of early adversity on the brain are not permanent and can potentially be ameliorated by later experience.

6.6 The Gut-Brain Axis: An Emerging Frontier

The gut-brain axis refers to the bidirectional communication network linking the enteric nervous system (the "brain in the gut," consisting of the approximately 500 million neurons embedded in the wall of the gastrointestinal tract) to the central nervous system. This communication occurs through multiple pathways, including the vagus nerve, the hypothalamic-pituitary-adrenal (HPA) axis, the immune system, and the bloodstream.

Research over the past decade has established that the gut microbiome (the community of microorganisms living in the gastrointestinal tract) plays an important role in this gut-brain communication. The gut microbiome influences brain function and behavior through several mechanisms: the production of neurotransmitters and their precursors (including serotonin, GABA, and dopamine), the modulation of inflammatory responses, the regulation of HPA axis activity, and direct neural signaling through the vagus nerve.

There is now considerable evidence that dysbiosis (abnormal composition or function of the gut microbiome) is associated with several psychiatric conditions, including depression, anxiety, schizophrenia, and autism spectrum disorder. Animal studies have demonstrated causal relationships between gut microbiome composition and behavior: germ-free mice (raised in the absence of any gut bacteria) show abnormalities in stress responses, anxiety-like behavior, and social behavior that can be partially normalized by colonization with specific bacterial strains. Human studies, while necessarily correlational rather than causal, have found specific microbiome signatures associated with depression and other conditions.

These findings have generated considerable excitement about the possibility of developing "psychobiotic" interventions (probiotics, prebiotics, or dietary interventions designed to modify the gut microbiome) as treatments for psychiatric conditions. While the evidence for specific psychobiotic interventions in psychiatry is still limited, the gut-brain axis represents a genuinely important and rapidly developing area of psychiatric neuroscience. For Bangladesh, where dietary patterns, intestinal infections, and antibiotic use (which profoundly affect the gut microbiome) differ substantially from the patterns in the high-income countries where most

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research has been conducted, specific research into the gut-brain axis in Bangladeshi populations would be valuable.

CHAPTER SEVEN: ASSESSMENT IN PSYCHIATRY - THE PRINCIPLES AND PRACTICE OF PSYCHIATRIC EVALUATION

7.1 The Psychiatric Assessment: More Than Diagnosis

The psychiatric assessment is the foundation of all clinical practice in psychiatry. Unlike many branches of medicine, where diagnosis depends heavily on laboratory tests, imaging, and other objective investigations, psychiatric diagnosis depends primarily on the clinical interview: the systematic gathering of information through conversation with the patient and, when appropriate, with family members and other informants. This makes the psychiatric interview a uniquely demanding clinical skill, requiring not only knowledge of psychopathology and psychiatric nosology but also the interpersonal sensitivity, cultural awareness, and communicative competence to establish a therapeutic relationship, gather accurate information from people who may be in severe distress, and integrate that information into a coherent clinical formulation.

The psychiatric assessment serves several distinct but interrelated functions. It is the primary means of gathering the information needed for diagnosis. It is the basis for the clinical formulation, which goes beyond diagnosis to develop an understanding of the specific factors that have contributed to this particular patient's difficulties and that are maintaining them. It is the foundation for treatment planning, since the most appropriate treatment for any given patient depends not only on their diagnosis but on their specific circumstances, preferences, and resources. It is an opportunity to establish a therapeutic relationship with the patient, to communicate respect and empathy, and to lay the foundation for the collaborative work of treatment. And it is an important intervention in itself: many patients report that simply being listened to, understood, and taken seriously by a knowledgeable clinician provides significant relief.

7.2 The Components of the Psychiatric Assessment

The psychiatric assessment has several key components, each of which provides distinct and important information.

The presenting complaint and history of the present illness are the patient's own account of their current difficulties: what is troubling them, when it began, how it has developed, what makes it better or worse, what they think is causing it, and what they have tried in the way of help. Eliciting this account requires the clinician to listen with active and genuine attention, to ask open questions that allow the patient to tell their story in their own terms, and to follow up with more specific questions as needed to fill in the clinical picture. In Bangladesh, this process may involve facilitating the expression of distress through idioms of distress that the patient is comfortable with (including somatic idioms), and it may require patience and skill to help the

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patient connect these idioms with the specific symptoms and experiences that are clinically relevant.

The psychiatric history includes information about previous episodes of mental illness (including their nature, severity, treatment, and response), previous contact with mental health services, previous psychiatric hospitalizations, and any family history of mental illness. This information is important for diagnosis (the lifetime pattern of illness is often more informative than the current episode alone) and for treatment planning (previous response to treatment is one of the best predictors of future response).

The medical history documents any physical illnesses, medications, and surgical procedures, because medical conditions and medications can cause or contribute to psychiatric symptoms, and psychiatric treatments may interact with medical treatments. In Bangladesh, where many patients present with somatic complaints, the systematic exclusion of medical causes of psychiatric symptoms is particularly important.

The personal history, also called the developmental and social history, covers the patient's life story: their family of origin, developmental milestones, early relationships, educational and occupational history, romantic and sexual history, family relationships, and current social circumstances. This information is important for understanding the developmental and social context of the patient's difficulties and for the clinical formulation. Gathering a personal history in Bangladesh requires sensitivity to cultural norms about disclosure, particularly regarding sexual history, family conflict, and other sensitive topics.

The mental state examination (MSE) is the systematic observation and assessment of the patient's current psychological functioning. It is to psychiatry what the physical examination is to general medicine. The MSE covers the following domains: appearance and general behavior; speech (rate, rhythm, volume, fluency); mood (subjective report of the patient's emotional state); affect (the clinician's observation of the patient's emotional expression); thought (the form of thinking, including its rate, coherence, and logical structure; and the content of thinking, including preoccupations, obsessions, delusions, and suicidal or homicidal ideation); perceptions (including hallucinations in any sensory modality); cognition (assessed through tests of orientation, memory, attention, and other cognitive functions); insight (the patient's awareness and understanding of their mental illness and its implications); and judgment (the patient's capacity for reality-based decision-making).

The clinical formulation integrates all the information gathered in the assessment into a coherent account of the patient's difficulties. A good formulation addresses several questions: What is happening (description of the presenting problem and mental state findings)? Why did it happen to this person at this time (predisposing factors that increased vulnerability, precipitating factors that triggered the episode, and perpetuating factors that are maintaining it)? What sense does it make (what is the meaning of the patient's symptoms in the context of their life story, their relationships, and their cultural context)? And what are the implications for treatment (what interventions are likely to be helpful, in what sequence, and with what goals)? The formulation is typically organized using the "4 Ps" framework: predisposing, precipitating, perpetuating, and protective factors.

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7.3 Investigations in Psychiatry

While the psychiatric diagnosis depends primarily on clinical assessment, investigations can contribute important information in specific circumstances. The principle underlying the use of investigations in psychiatry is to rule out or characterize medical conditions that may be causing or contributing to psychiatric symptoms, to assess the physical health of patients whose illness or treatment may have medical consequences, and, in some contexts, to guide pharmacological treatment decisions.

Routine blood tests for a patient presenting with first-episode psychosis or significant mood disorder typically include a full blood count, liver function tests, renal function tests, thyroid function tests (hypothyroidism can present with depression; hyperthyroidism can present with anxiety or manic features), fasting glucose and lipid profile (important baselines before initiating antipsychotics, which can cause metabolic disturbances), inflammatory markers including C-reactive protein and ESR, and vitamin B12 and folate levels (deficiencies can contribute to neuropsychiatric symptoms). Syphilis serology, HIV testing, and hepatitis screen are relevant in patients with risk factors. Urine toxicology is important for excluding substance use as a contributing factor.

Electroencephalography (EEG) is indicated when there is a suspicion of epilepsy (which can present with psychiatric manifestations, including behavioral disturbance, dissociative episodes, and post-ictal depression or psychosis), or when the clinical picture suggests an encephalitic or other organic process. In Bangladesh, EEG is available at major hospitals but not in most district settings.

Brain imaging is indicated in certain presentations, particularly first-episode psychosis (to exclude structural abnormalities such as tumors, hydrocephalus, or encephalitis), dementia (to characterize the type and extent of brain changes), and any presentation where the clinical picture is atypical or where a focal neurological cause is suspected. CT brain is more widely available in Bangladesh than MRI, though MRI provides much more detailed information about brain structure and is preferable when available and affordable.

Neuropsychological testing, administered by a trained clinical psychologist, provides a detailed assessment of cognitive functioning across domains including attention, memory, language, visuospatial skills, and executive function. It is particularly useful in the assessment of dementia, in the characterization of cognitive deficits in schizophrenia, and in the assessment of intellectual disability. Neuropsychological testing resources are limited in Bangladesh, with very few trained neuropsychologists available.

Pharmacogenomic testing, while not yet routinely available in Bangladesh, is an emerging area that can guide psychopharmacological decisions by identifying genetic variants that affect the metabolism of psychiatric medications. The most clinically important of these variants are those in genes encoding cytochrome P450 enzymes, which metabolize a wide range of psychiatric medications. Variants in CYP2D6, CYP2C19, and CYP3A4 can produce very different medication blood levels at standard doses, and identifying these variants can help to avoid both

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toxicity (in poor metabolizers who achieve very high blood levels at standard doses) and treatment failure (in ultra-rapid metabolizers who achieve very low blood levels).

7.4 Cultural Aspects of Psychiatric Assessment in Bangladesh

Conducting a psychiatric assessment in Bangladesh requires awareness of several cultural factors that can affect both the process and the product of the assessment.

Language and idioms of distress: In Bangladesh, the assessment should ideally be conducted in the patient's first language, whether that is Bengali, Chittagonian, Sylheti, or another language. The use of interpreters, while sometimes necessary, introduces important limitations. The clinician should be familiar with the local idioms through which distress is commonly expressed, and should not assume that the absence of Western emotional vocabulary implies the absence of the relevant experience.

Family involvement: In Bangladesh, the family typically plays a central and legitimate role in health care decisions, and the psychiatric assessment often needs to involve family members both as sources of collateral information and as participants in the therapeutic process. At the same time, there are situations in which the presence of family members may inhibit the patient from disclosing important information, particularly regarding domestic violence, sexual abuse, substance use, or other sensitive topics. The clinician needs to use judgment about when to interview the patient alone and when to involve family members.

Explanatory models: As discussed in Chapter Five, many patients and families in Bangladesh will have non-biomedical explanatory models for their symptoms. The clinician needs to elicit these models with genuine curiosity and respect (using Kleinman's "Explanatory Model Interview" questions or a simplified version), to work with them rather than simply dismissing them, and to develop a treatment plan that addresses the patient's own understanding of their illness as well as the clinician's.

Stigma and its effects on disclosure: Psychiatric stigma in Bangladesh is pervasive and severe. Patients and families may be very reluctant to disclose the full extent of symptoms, or to acknowledge a psychiatric diagnosis, out of fear of social consequences. The clinician should create an environment that is as non-judgmental and reassuring as possible, and should take care to maintain confidentiality.

Assessment of cognitive function: Standard cognitive assessment tools developed in Western settings may not be valid for use in Bangladesh, particularly with older adults who have limited formal education. The clinician needs to take educational background into account when interpreting cognitive test results, and should be cautious about diagnosing cognitive impairment in individuals with low literacy.

7.5 Rating Scales and Psychometric Instruments in Bangladesh

Standardized rating scales and psychometric instruments have an important role in psychiatric assessment, both in clinical practice and in research. They provide a systematic and replicable

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method for assessing the severity of psychiatric symptoms, tracking change over time, and comparing outcomes across studies and settings.

However, using rating scales developed in Western settings in Bangladesh raises important questions of validity. A scale that is simply translated from English into Bengali may not be equivalent to the original if the underlying constructs are culturally specific or if the items do not map onto local idioms of distress. The process of cross-cultural adaptation of rating scales involves not just translation but careful review of the conceptual equivalence of items, cognitive testing with intended users, and statistical validation in the target population.

A number of rating scales have been adapted for use in Bangladesh and other South Asian settings. The PHQ-9 (Patient Health Questionnaire-9) for depression and the GAD-7 (Generalized Anxiety Disorder-7) for anxiety have been translated and validated in Bengali and are increasingly used in primary care settings. The Mini-International Neuropsychiatric Interview (MINI) and the Structured Clinical Interview for DSM Disorders (SCID) have also been adapted for use in research settings in Bangladesh.

The development and validation of Bangladesh-specific psychometric tools, grounded in local understandings of distress and designed to be accessible across the educational and literacy range of the Bangladeshi population, is an important research priority.

CHAPTER EIGHT: STIGMA, DISCRIMINATION, AND THE SOCIAL CONSEQUENCES OF MENTAL ILLNESS IN BANGLADESH

8.1 Understanding Stigma: Concepts and Mechanisms

Stigma is one of the most powerful and pervasive obstacles to mental health care and recovery. The sociologist Erving Goffman, in his influential 1963 work "Stigma: Notes on the Management of Spoiled Identity," defined stigma as an attribute that reduces a person "from a whole and usual person to a tainted, discounted one." Applied to mental illness, stigma refers to the negative attitudes, beliefs, and behaviors directed at people with mental illness by the broader society, and to the internalization of these negative attitudes by people with mental illness themselves.

Contemporary stigma researchers distinguish between several related but distinct phenomena. Social stigma (also called public stigma) refers to the prejudices and discriminatory behaviors of the general public toward people with mental illness. Self-stigma refers to the internalization of stigmatizing attitudes by people with mental illness themselves, leading to reduced self-esteem, hopelessness, and reluctance to seek help. Structural stigma refers to the institutional policies and social arrangements (including mental health legislation, insurance policies, employment law, and the allocation of health resources) that discriminate against people with mental illness.

The mechanisms through which stigma operates include stereotyping (the cognitive generalization of negative characteristics to all members of a stigmatized group), prejudice (the

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emotional endorsement of negative stereotypes), and discrimination (the behavioral expression of prejudice through avoidance, exclusion, and the denial of opportunities). In the mental health context, these mechanisms interact in a vicious cycle: social stigma leads to discrimination in employment, education, and relationships; discrimination leads to social exclusion and economic deprivation; these adversities worsen mental health; and worsened mental health reinforces stigmatizing stereotypes.

8.2 The Nature and Extent of Mental Health Stigma in Bangladesh

Mental health stigma in Bangladesh is severe, pervasive, and deeply embedded in social and cultural norms. Qualitative research with Bangladeshi communities has found that mental illness is widely associated with personal and familial shame, moral weakness, supernatural punishment, and the fear of hereditary transmission. People with mental illness are commonly regarded as dangerous, unpredictable, and incapable of leading normal lives. The social consequences of a mental illness diagnosis include the loss of marriage prospects (both for the person with the illness and for their siblings), withdrawal of social support, loss of employment, and in some cases outright exclusion from the community.

The term "pagol" (mad or crazy in Bengali) carries a heavy stigma burden in Bangladeshi culture and is commonly applied both to people with severe mental illness and, pejoratively, to anyone whose behavior is considered unusual or irrational. The casual use of this term reflects and reinforces deeply held cultural attitudes that equate mental illness with incompetence, dangerousness, and moral failure. The internalization of this stigma by people with mental illness contributes to delay in seeking help, poor treatment engagement, and the profoundly negative impact of illness on self-esteem and identity.

The fear of hereditary stigma is particularly powerful in the Bangladeshi context, where family reputation plays a central role in social status and where marriage arrangements are a primary vehicle for social mobility and security. The disclosure of a family member's mental illness may jeopardize the marriage prospects of other family members, leading families to conceal mental illness from neighbors, extended family, and potential marriage partners. This secrecy can lead to delays in seeking care and may interfere with treatment engagement.

Healthcare providers themselves are not immune to stigmatizing attitudes. Studies in various settings have found that mental health stigma is common among doctors, nurses, and other health professionals, and that provider stigma can lead to differential treatment quality, negative prognostic assumptions, and therapeutic nihilism. Addressing stigma in health professional education and training is an important priority.

8.3 Anti-Stigma Initiatives in Bangladesh

Anti-stigma work in Bangladesh is in its early stages, but there are promising developments. The National Institute of Mental Health has conducted public awareness campaigns on mental health. Several NGOs have developed community-based mental health literacy programs. The World Mental Health Day (October 10) is observed with increasing visibility and media coverage each year.

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International evidence on the most effective approaches to stigma reduction suggests that direct contact with people with lived experience of mental illness is more effective in changing attitudes than education alone. Programs that bring people with mental illness into contact with members of the public in settings that challenge stereotypes (for example, through employment, volunteer work, or public speaking) can produce measurable changes in social distance and discriminatory attitudes. Adapting this evidence to the Bangladeshi context, with attention to cultural norms, local media, and the role of religious leaders and community influencers, is an important challenge for anti-stigma advocates.

CHAPTER NINE: CONTROVERSIES IN PSYCHIATRY - A CANDID APPRAISAL

9.1 The Nature of Psychiatric Controversies

Psychiatry is a field of vigorous intellectual controversy, which is not surprising given the complexity of its subject matter, the limitations of current scientific understanding, and the profound social and ethical stakes of its practice. Rather than shy away from these controversies, a good textbook should engage with them honestly and help the reader to think critically about the competing positions. The following sections briefly identify the most important current controversies; many of them will be revisited in greater depth in subsequent chapters.

9.2 The Validity of Psychiatric Diagnoses

As discussed earlier, the validity of DSM and ICD diagnoses, specifically whether they represent genuine natural kinds with distinct etiologies and treatment implications, or whether they are essentially arbitrary groupings of symptoms, is a foundational controversy in psychiatry. The failure to find specific biological markers for most psychiatric diagnoses despite decades of intensive research has intensified this debate. Critics argue that the diagnostic system is circular (symptoms define the disorder, and the disorder is defined by its symptoms), heterogeneous (individuals with the same diagnosis may be biologically very different), and not natural (the boundaries between diagnostic categories and between disorder and normality are set by expert consensus rather than by nature).

Defenders of the current diagnostic system argue that despite its limitations, it is the best system currently available, that it serves important clinical functions (enabling communication, guiding treatment choices, and supporting research), and that imperfect categories are better than no categories at all. They also argue that the perfect should not be the enemy of the good, and that while the search for more biologically grounded diagnostic categories should continue, clinicians need usable tools now.

9.3 The Chemical Imbalance Debate

The "chemical imbalance" theory of mental illness, particularly the serotonin deficiency theory of depression, has been a major focus of controversy in recent years. A 2022 umbrella review by Moncrieff and colleagues, published in Molecular Psychiatry, concluded that the existing

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evidence does not support the hypothesis that depression is associated with lowered activity or concentrations of serotonin, challenging what has been a widely promoted explanation of depression's cause. This paper generated enormous media attention and public debate, with some commentators claiming that the "chemical imbalance" theory had been definitively refuted.

The response from the psychiatric establishment was nuanced. Most senior psychiatrists agreed that the simple serotonin deficiency theory was an oversimplification that had never accurately represented the scientific evidence, and that the role of serotonin in depression is complex and not reducible to a simple deficiency. However, they also argued that this did not mean that antidepressants are ineffective (the evidence for their efficacy, while more modest than pharmaceutical industry promotion has sometimes suggested, remains substantial) or that biological factors are unimportant in depression. The debate highlights the importance of communicating complex scientific evidence accurately to the public, and of being transparent about the limits of current scientific understanding.

9.4 The Overmedication Debate

Related to the chemical imbalance debate is the broader controversy about whether psychiatric medications are over-prescribed. Critics like Peter Gøtzsche and Robert Whitaker have argued, with varying degrees of nuance, that psychiatric medications are more harmful and less effective than the mainstream psychiatric consensus acknowledges, and that the pharmaceutical industry has used its influence over research, prescribing guidelines, and public information to inflate estimates of benefit and minimize estimates of harm.

These arguments have gained significant public traction and have contributed to the phenomenon of medication non-adherence among psychiatric patients. However, the mainstream psychiatric response is that while there are genuine concerns about over-prescribing in some contexts (particularly the prescribing of antidepressants for mild depression that might resolve without medication, and the long-term prescribing of antipsychotics at high doses), the pendulum has swung too far in some public discussions, with the result that people with severe mental illness who genuinely need and benefit from medication are being discouraged from taking it.

In Bangladesh, the situation is complicated by several factors. There is very limited access to psychological therapies, which means that medication is often the only treatment available, even in cases where it is not the preferred approach. There is also a significant problem of irrational prescribing, both over-prescribing (particularly of benzodiazepines by non-specialist physicians) and under-prescribing of evidence-based medications for conditions like schizophrenia and bipolar disorder.

9.5 The Politics of Psychiatric Diagnosis: Homosexuality and the DSM

The history of the diagnosis of homosexuality in the DSM is a cautionary tale about the relationship between psychiatry and social norms. Homosexuality was listed as a "sociopathic personality disturbance" in DSM-I (1952) and as a "sexual deviation" in DSM-II (1968). Following sustained protest by gay rights activists and internal debate within the American Psychiatric Association, homosexuality was removed from DSM-III in 1973. This is perhaps the

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most dramatic example of a diagnostic category being created and eliminated for social and political rather than scientific reasons.

This history has been cited by critics of psychiatry as evidence that diagnostic categories reflect social norms rather than biological realities, and that the power to define mental illness is a form of social power that can be used to pathologize minority identities and behaviors. It also raises the question of what other current diagnostic categories might be similarly socially constructed. The ICD-11, published in 2019, removed gender incongruence from the mental disorders chapter and relocated it to a new chapter on "conditions related to sexual health," explicitly in recognition that gender diversity is not a mental disorder, while also maintaining a diagnostic category (under a new name) to ensure access to health services for transgender and gender-diverse people.

In Bangladesh, these issues are particularly charged. Same-sex relationships are criminalized under Section 377 of the Penal Code (inherited from British colonial law), and gender and sexual minorities face severe social stigma and legal risk. The mental health consequences of this discrimination, including depression, anxiety, suicidal ideation, and the particular stresses of concealing one's identity, are significant and are not adequately addressed by the current mental health system.

CHAPTER TEN: THE FUTURE OF PSYCHIATRY IN BANGLADESH - A VISION FOR 2030 AND BEYOND

10.1 The Scale of the Challenge

Looking ahead, the scale of the mental health challenge facing Bangladesh is daunting. A population of 170 million people, with a prevalence of mental disorders of approximately 16.8 percent among adults alone, implies that approximately 28 million adults in Bangladesh are living with a mental disorder at any given time. The treatment gap is estimated at over 90 percent: fewer than 10 percent of those in need receive any form of evidence-based care. The available mental health workforce is insufficient by a factor of at least 10 to provide specialist care to even a fraction of those in need. And the social, environmental, and political factors that generate mental illness, including poverty, inequality, domestic violence, natural disaster exposure, and displacement, show no sign of diminishing in the near future.

10.2 Strategic Priorities for Mental Health System Development

Addressing this challenge requires action across multiple fronts simultaneously, and the following strategic priorities reflect both the global evidence base and the specific realities of Bangladesh.

The integration of mental health into primary care is the single most important structural reform needed for the mental health system in Bangladesh. Primary care provides the most accessible point of contact between individuals and the health system, and primary care workers are best

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positioned to identify and provide initial management of common mental disorders in the community. The WHO's mhGAP program provides a practical framework for this integration, and pilot projects in Bangladesh have demonstrated its feasibility. Scaling this approach nationally requires sustained investment in training, supervision, and quality assurance for primary care workers across the country.

Task-sharing, the training and support of community health workers and other non-specialist health workers in basic mental health interventions, is an essential complement to primary care integration. Community health workers in Bangladesh, including the shasthya shabikas and shasthya karmis of the community health system, have demonstrated their capacity to deliver effective interventions for maternal and child health conditions. Expanding their role to include basic mental health assessment, psychoeducation, and simple psychological first aid is a cost-effective and scalable approach to extending the reach of mental health services.

The development of digital mental health resources, including mobile health (mHealth) applications, telephone helplines, and web-based psychoeducation platforms, offers promising possibilities for extending the reach of mental health services in Bangladesh. Smartphone penetration is increasing rapidly, particularly among younger Bangladeshis, and digital platforms have the potential to provide psychoeducation, self-management support, and even remote consultations to people who cannot access face-to-face services. However, digital approaches are not panaceas: they cannot replace the therapeutic relationship, and they may not be accessible to older adults, people with limited literacy, and those in areas with poor connectivity. They need to be developed and evaluated with the specific needs and constraints of the Bangladeshi context in mind.

Increased investment in mental health research in Bangladesh is essential. The evidence base for mental health interventions in Bangladesh is thin, and many of the interventions and guidelines currently used in clinical practice are based on research conducted in high-income countries, with uncertain applicability to the Bangladeshi context. National research priorities should include: epidemiological research on the prevalence, correlates, and course of mental disorders; research on the social determinants of mental health; development and evaluation of culturally adapted psychological interventions; research on the most effective approaches to task-sharing and primary care integration; and research on the mental health consequences of climate change and natural disasters.

The human rights of people with mental illness must be at the center of mental health system development. This means implementing and strengthening the Mental Health Act 2018, including its provisions for independent oversight of psychiatric facilities and for the rights of people subject to involuntary treatment. It means addressing the human rights abuses that occur in some residential care settings, including both government institutions and private and shrine-based facilities. It means involving people with lived experience of mental illness as genuine partners in the design, delivery, and evaluation of services. And it means addressing the structural stigma embedded in legal, employment, and social systems that discriminate against people with mental illness.

Mental health financing is a critical enabler. The mental health budget in Bangladesh needs to be substantially increased, from its current level of less than 0.5 percent of the health budget to a minimum of 5 percent, as recommended by international guidelines. This will require sustained advocacy from mental health professionals, civil society, and affected communities, and the building of political will at the highest levels of government.

10.3 The Role of Technology and Innovation

Artificial intelligence and machine learning are beginning to make meaningful contributions to psychiatry globally. The field is transitioning toward a more stratified and dimensional understanding of mental health conditions, based on continuous spectra, following the precision medicine framework. Frontiers AI applications in psychiatry include computer-aided diagnosis (using machine learning to analyze voice, text, facial expression, and movement patterns to detect psychiatric conditions), treatment prediction (using large datasets to identify which patients are most likely to respond to which treatments), and monitoring (using digital phenotyping, the continuous passive monitoring of behavior and physiology through smartphones and wearables, to track symptom fluctuation and detect relapse).

Psychiatry currently faces intersecting challenges including technological disruption through artificial intelligence; the loss of exclusive prescribing authority; and escalating systemic pressures. Rather than competing with AI, psychiatry must redefine its value through those capacities that cannot be automated: empathy, interpretation, and ethical discernment. Sage Journals

For Bangladesh, the potential of these technologies is significant but must be approached realistically. The algorithms trained on data from high-income Western populations may not be valid for Bangladeshi populations, and there is a significant risk that AI-based tools will perpetuate or amplify existing health inequalities if they are not developed with diverse and representative data. The regulatory frameworks for AI-based health technologies are also underdeveloped in Bangladesh. Nevertheless, digital mental health technologies, designed for and validated in the Bangladeshi context, have real potential to extend the reach and improve the quality of mental health care in a resource-limited setting.

10.4 Building a Mentally Healthy Society: The Public Health Vision

The ultimate vision for mental health in Bangladesh goes beyond expanding clinical services to treating mental illness. It is the vision of a society in which mental health is understood as a fundamental dimension of human well-being, where the social conditions that generate mental illness are addressed through coordinated social policy, where mental health literacy is sufficient for people to recognize distress in themselves and others and to seek and access appropriate help, where stigma and discrimination against people with mental illness have been substantially reduced, and where people with mental illness live with dignity, autonomy, and full social participation.

This is an ambitious vision, but it is not an impossible one. Bangladesh has demonstrated, in its health and development achievements over the past half-century, that even in contexts of

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resource constraint, determined collective action guided by clear priorities and sustained political commitment can produce remarkable results. The challenge for mental health in Bangladesh is to generate the same level of political, professional, and civil society commitment that drove the achievements in maternal and child health, immunization, and family planning. That challenge is what this textbook hopes, in part, to contribute toward.

SUMMARY AND KEY POINTS FOR PART ONE

Part One has established the foundations on which the rest of this textbook will build. The key points are as follows:

Psychiatry is a medical specialty that deals with the full range of mental disorders, but it is also a human science, a social institution, and an ethical practice. Its complexity derives from the fact that it deals with phenomena, specifically human thoughts, emotions, perceptions, and behaviors, that are simultaneously biological, psychological, and social, and that are inseparable from questions of meaning, value, and social power.

The history of psychiatry, from ancient supernatural explanations through the Hippocratic naturalistic tradition, medieval Islamic medicine, the colonial asylum, moral therapy, psychoanalysis, and the psychopharmacological revolution, is not a simple story of progressive scientific advance. It is a complex and contested history in which scientific progress has been entangled with social power, professional interests, and cultural values.

In Bangladesh, this global history intersects with a local history that includes Ayurvedic and Unani healing traditions, the colonial asylum system, the colonial-era Lunacy Act and its long shadow, the mental health consequences of the Liberation War and subsequent political turbulence, and the extraordinary social transformation of the past half-century.

The major theoretical models of psychiatry, including the biomedical model, the biopsychosocial model, psychodynamic theory, cognitive-behavioral theory, the stress-vulnerability model, and the recovery model, each illuminate important aspects of mental illness and each has clinical implications. The most sophisticated clinical practice draws on multiple models rather than committing dogmatically to a single one.

The emerging paradigm of precision psychiatry, grounded in advances in genomics, neuroimaging, computational biology, and data science, promises more individualized and effective treatment but remains largely aspirational for low-resource settings like Bangladesh. The practical priorities for Bangladesh's mental health system are primary care integration, task-sharing, increased investment, and the protection of the human rights of people with mental illness.

The social determinants of mental health, including poverty, gender inequality, violence, natural disaster exposure, and displacement, are major drivers of the burden of mental illness in Bangladesh and must be addressed through social policy as well as through clinical services.

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Mental health stigma in Bangladesh is severe and operates at individual, family, community, and structural levels. Anti-stigma work is an essential component of mental health system development.

The epidemiology of mental disorders in Bangladesh indicates a large burden with an enormous treatment gap. Addressing this gap requires action across multiple levels, from individual clinical care to population-level public health and social policy.

CASE STUDIES FOR PART ONE

Case Study 1.2: Depression in a Garment Worker

Razia is a 28-year-old woman who works in a garment factory in Dhaka. She is the eldest of five children, born in a village in Faridpur district, who moved to Dhaka seven years ago for work and sends a portion of her salary home to her family each month. She lives in a small room in a slum settlement near the factory with two other women. She is not married, which is a source of some anxiety for her parents, who ask regularly about marriage prospects.

Over the past four months, Razia has been experiencing increasing sadness, loss of energy, difficulty sleeping (waking in the early hours and being unable to return to sleep), loss of appetite, difficulty concentrating at work, and repeated thoughts that life is not worth living. She has missed several days of work, which has led to warnings from her supervisor. She presented initially to a private pharmacy near her home, where she was sold a combination of vitamin supplements and a preparation marketed for "weakness" (dhormot). When this did not help, she was taken by a colleague to see a general practitioner, who diagnosed her with "gastritis" based on her abdominal discomfort and prescribed antacids.

Eventually, a community health worker who was conducting a house-to-house survey for a maternal and child health program visited Razia's room, used a Bengali version of the PHQ-9 to assess her, and found a score of 18, indicating moderately severe depression. The worker referred her to the primary care physician at the nearby health center, who confirmed the diagnosis of major depressive episode and initiated treatment with a low dose of fluoxetine, with plans to increase it over four weeks. The physician also provided psychoeducation about depression, its causes, and its treatment, and encouraged Razia to maintain social contact and to reduce her working hours if possible.

At six-week follow-up, Razia's PHQ-9 score had fallen to 9, indicating mild depression, and she reported improved sleep and energy. She had not experienced suicidal thoughts for three weeks. She was continued on fluoxetine and offered referral to a psychology student who was conducting a weekly support group for women with depression at the health center.

This case illustrates several important points: the social and occupational context of depression in Bangladeshi women; the common pathway through informal and general health care before reaching appropriate mental health care; the value of systematic screening tools like the PHQ-9

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in primary care; the role of community health workers in identification and referral; and the possibility of effective treatment in primary care settings. It also illustrates the limited availability of psychological therapies in routine clinical practice.

Case Study 1.3: Psychosis in a Young Man from Sylhet

Mohammed Iqbal is a 22-year-old man from a village in Sylhet division. He is the son of a farmer who has struggled to maintain the family's small plot of land in the face of flooding and falling crop prices. Iqbal was a good student who passed his SSC with a decent grade and aspired to higher education, but family financial constraints meant that he could not continue beyond the local school. He found work as a day laborer in Dhaka, sending remittances to his family.

Over a period of about three months, Iqbal began to develop a series of increasingly frightening experiences. He heard voices commenting on his actions and telling him he was a sinner. He became convinced that his neighbors in his rented room were plotting against him, that they had placed some kind of curse on him, and that people on the street were watching him and passing secret messages about him. He stopped sleeping, stopped eating properly, and began to spend long hours locked in his room, praying loudly and asking God for protection. He became increasingly aggressive when approached, and after an incident in which he attacked a neighbor whom he believed was part of the plot against him, his fellow lodgers contacted his family.

His family came from Sylhet and took him home. They immediately consulted a local fakir, who performed an exorcism ceremony (ruqyah) and declared that Iqbal was possessed by a jinn. This produced some temporary improvement, but the symptoms returned within two weeks. The family then consulted a local doctor who referred Iqbal to the district hospital, where a psychiatrist diagnosed him with a first episode of schizophrenia.

The psychiatrist explained the diagnosis to the family using both biomedical and cultural frameworks, acknowledging the family's belief about jinn while also explaining that the brain can be affected by illness in ways that produce frightening experiences, and that there are effective medications for this condition. Haloperidol was initiated at a low dose, with plans to switch to a second-generation antipsychotic (risperidone) if there were significant side effects.

The family was deeply concerned about the implications of the diagnosis for Iqbal's marriage prospects and for the reputation of the family. They asked the psychiatrist to keep the diagnosis confidential and not to tell their neighbors. The psychiatrist addressed these concerns empathetically, discussed the implications of stigma, and provided family psychoeducation about schizophrenia, its course, and its treatment.

Over the following three months, Iqbal's psychotic symptoms improved significantly on risperidone. The voices became much quieter and less frequent, and the persecutory beliefs diminished, though they did not fully resolve. His sleep and appetite improved. He remained at home in Sylhet, unable to return to work in Dhaka, and the family was under significant financial strain. His case was followed up at the district hospital.

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This case illustrates the typical help-seeking pathway for psychosis in rural Bangladesh; the interaction between biomedical and traditional explanatory models; the critical role of family in supporting care; the impact of stigma on family decision-making; the challenges of accessing and affording treatment; and the social consequences of severe mental illness, particularly the impact on marriage prospects and economic functioning. It also illustrates the importance of culturally sensitive communication in psychiatric practice.

STUDY QUESTIONS FOR PART ONE

1. *Define psychiatry and behavioral science and explain the relationship between them. What distinguishes psychiatry from other medical specialties, and what makes it both similar to and different from the social sciences?*
2. *Trace the history of mental illness care from ancient times to the present, with particular attention to the transition from custodial to therapeutic models and to the significance of the psychopharmacological revolution. How does this global history relate to the specific history of psychiatry in Bengal and Bangladesh?*
3. *Explain the mind-body problem and its relevance to psychiatric practice. What are the main positions in contemporary philosophy of mind, and what are their implications for how we understand and treat mental disorders?*
4. *Compare and contrast the biomedical model, the biopsychosocial model, the psychodynamic model, and the cognitive-behavioral model of mental illness. What are the strengths and limitations of each? How does the emerging framework of precision psychiatry relate to these established models?*
5. *Describe the epidemiology of mental disorders in Bangladesh, based on the National Mental Health Survey 2019 data. What are the main limitations of this data, and what additional research is needed?*
6. *What are the major barriers to mental health care in Bangladesh? Discuss these barriers at the individual, family, community, health system, and policy levels.*
7. *Explain the concept of idioms of distress and its clinical importance in the Bangladeshi context. Give specific examples of idioms of distress that are commonly found in Bangladesh and discuss their implications for clinical assessment.*
8. *Describe the nature and consequences of mental health stigma in Bangladesh. What are the main approaches to stigma reduction, and what is the evidence for their effectiveness?*
9. *What are the main controversies in contemporary psychiatry? Choose one controversy that you consider particularly important and present the arguments on both sides.*
10. *Outline a strategic vision for the development of the mental health system in Bangladesh over the next decade. What are the most important priorities, and what challenges are likely to be encountered in pursuing them?*

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End of Part One

PART TWO: PSYCHOTIC DISORDERS AND MOOD DISORDERS - CLINICAL SCIENCE, PATHOPHYSIOLOGY, AND PRACTICE IN BANGLADESH

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CHAPTER ELEVEN: SCHIZOPHRENIA AND THE PSYCHOTIC SPECTRUM - FROM KRAEPELIN TO THE CHOLINERGIC REVOLUTION

11.1 Introduction: The Problem of Psychosis

Of all the conditions that fall within the scope of psychiatry, psychosis is in many ways the most dramatic, the most distressing, and the most philosophically challenging. When a person experiences psychosis, the very faculties through which they perceive, interpret, and engage with reality become disordered. They may hear voices that no one else hears, see things that are not present, hold convictions of unshakeable certainty that are entirely at odds with the evidence available to them, or experience their own thoughts as being inserted by external forces. These are not merely distressing experiences; they are experiences that call into question the most basic assumptions of ordinary life, namely that the world we perceive is the world that is actually there, that our own thoughts are our own, and that other people inhabit the same reality that we do.

The word "psychosis" derives from the Greek words for mind (psyche) and condition (osis) and refers broadly to a state in which the individual's contact with reality is severely impaired. Psychosis is not a diagnosis; it is a clinical syndrome that can arise from many different conditions: schizophrenia, bipolar disorder with psychotic features, severe depression with psychotic features, substance-induced psychotic disorder, delirium, dementia, and a range of medical and neurological conditions. Understanding what these conditions have in common, and how to distinguish between them, is one of the most important and demanding tasks in clinical psychiatry.

In Bangladesh, psychosis presents particular challenges. The cultural context shapes the way psychotic experiences are interpreted: what a clinician might classify as a delusion, a healer or family member might understand as a spiritual experience or as evidence of spirit possession. The help-seeking pathway for psychosis typically involves multiple providers before psychiatric care is reached, with consequent delays in treatment that have serious implications for outcome. The resources available for the management of severe mental illness are extremely limited, and the social consequences of a psychosis diagnosis, including stigma, marriage exclusion, and employment loss, are severe. All of this must be borne in mind throughout the clinical discussion that follows.

11.2 Schizophrenia: Definition, History of the Concept, and the Kraepelin-Bleuler Debate

Schizophrenia is the prototypical psychotic disorder: the condition that, more than any other, has shaped the history of psychiatry, generated the most debate about the nature of mental illness, and posed the greatest challenges for neuroscience and therapeutics. It is also, as we shall see, a diagnosis whose very existence as a coherent disease entity is contested in ways that have real clinical and scientific implications.

The concept of schizophrenia has a complex genealogy. Emil Kraepelin, the great systematizer of German psychiatry in the late nineteenth and early twentieth century, described a condition he called "dementia praecox" (premature dementia), characterized by its early onset (typically in

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adolescence or young adulthood), its chronic and deteriorating course, and its combination of hallucinatory, delusional, and cognitive features. Kraepelin distinguished dementia praecox from "manic-depressive insanity" (his term for what we would today call bipolar disorder) primarily on the basis of prognosis: dementia praecox had a poor long-term outcome, while manic-depressive insanity had a relatively good one.

Eugen Bleuler, a Swiss psychiatrist, renamed dementia praecox "schizophrenia" in 1911 (from the Greek for "split mind," referring not, as popular misunderstanding has it, to split personality, but to the splitting of the psychic functions: thinking, feeling, and willing). Bleuler disagreed with Kraepelin about the fundamental features of the condition. For Kraepelin, hallucinations and delusions were its cardinal symptoms. For Bleuler, these "positive" symptoms were secondary phenomena; the primary or fundamental symptoms were what he called the "four A's": loosening of Associations (disordered, disorganized thinking), Affective blunting (reduced emotional expression), Autism (withdrawal from social reality into a private inner world), and Ambivalence (conflicting attitudes coexisting simultaneously). These fundamental symptoms, for Bleuler, were the defining features of schizophrenia and could be present even in the absence of hallucinations and delusions.

The Kraepelin-Bleuler debate continues to be relevant today, though in different terms. Contemporary psychiatric classification has settled on a broadly Kraepelinian definition of schizophrenia, emphasizing the positive symptoms (hallucinations, delusions, disorganized speech and behavior) alongside negative symptoms (affective blunting, alogia or poverty of speech, avolition, and anhedonia) and cognitive impairment. The long-term prognosis is no longer universally poor, as Kraepelin believed: as we shall see, longitudinal studies have found a wide range of outcomes, including substantial functional recovery in a significant minority of patients. But the fundamental question raised by Bleuler, namely whether the positive symptoms that dominate diagnostic criteria are really the core of the condition or merely its most visible manifestations, has not been fully resolved.

11.3 Epidemiology of Schizophrenia: Global and Bangladeshi Perspectives

Schizophrenia has a lifetime prevalence of approximately 0.7 percent in the global population, which translates to approximately 21 million people worldwide. This prevalence appears to be relatively consistent across different cultural and geographic settings, though some variations have been reported and debated. The annual incidence of schizophrenia is approximately 15 to 20 per 100,000 population. The condition typically has its onset in late adolescence or early adulthood, with a mean age of onset of approximately 20 to 25 years in men and 25 to 30 years in women.

In Bangladesh, robust epidemiological data on schizophrenia are limited. The National Mental Health Survey 2019 found that psychotic disorders (including schizophrenia) were present in approximately 1.0 to 1.5 percent of the adult population, consistent with global estimates. This would suggest that approximately 900,000 to 1.4 million adults in Bangladesh are living with a psychotic disorder. Given the treatment gap described in Part One, the great majority of these individuals are receiving no specialist mental health care.

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Several epidemiological features of schizophrenia deserve particular attention in the Bangladeshi context. First, there is good evidence that urban-rural gradients in schizophrenia incidence are significant: people born and raised in urban areas have higher rates of schizophrenia than those in rural areas. The mechanisms underlying this association are debated but may include social adversity, social defeat, social fragmentation, and environmental exposures (including air pollution and infectious exposures) that are more concentrated in urban settings. As Bangladesh undergoes rapid urbanization, with an increasing proportion of the population living in cities, this epidemiological consideration becomes more important.

Second, migration is a well-established risk factor for schizophrenia. Both internal migration (from rural areas to cities) and international migration are associated with elevated rates of psychotic disorders, through mechanisms that likely involve social defeat, social isolation, loss of cultural supports, and the psychological stress of navigating unfamiliar social environments. In Bangladesh, where both internal and international migration are extensive, this represents a public health concern.

Third, prenatal and perinatal risk factors for schizophrenia include maternal infection during pregnancy (particularly influenza and other viral infections in the second trimester), obstetric complications, malnutrition, and stress during pregnancy. Several of these risk factors are common in Bangladesh, suggesting that prenatal and perinatal care quality may be an important determinant of schizophrenia risk at the population level.

11.4 Clinical Features: The Positive, Negative, and Cognitive Dimensions of Schizophrenia

Schizophrenia is a clinically heterogeneous condition, meaning that the presentation varies widely between individuals. This heterogeneity has been one of the major obstacles to developing a coherent understanding of schizophrenia as a biological entity. The three-dimensional model of schizophrenia psychopathology, distinguishing positive symptoms, negative symptoms, and cognitive impairment, provides a useful framework for understanding this heterogeneity, even though these dimensions are not entirely independent.

***Positive symptoms** are symptoms that represent the addition of abnormal experiences or behaviors to the individual's mental life: they are present in schizophrenia but absent in health. They include:*

Hallucinations, the perception of stimuli in the absence of any corresponding external input. Auditory hallucinations are by far the most common type in schizophrenia: the person hears voices speaking, often commenting on their actions in the third person ("He is a bad person," "She is doing wrong"), or talking to each other about the person, or giving commands. These voices are typically experienced as coming from outside the person's own mind, as genuinely external perceptions, and are often terrifying, humiliating, or commanding. Visual hallucinations occur less commonly in schizophrenia and their presence should prompt a careful search for organic (medical or neurological) causes. Olfactory, gustatory (taste), and tactile hallucinations also occur and can be particularly distressing.

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Delusions, defined as fixed false beliefs held with absolute conviction, resistant to evidence and argument, and not shared by the individual's cultural or subcultural group. In schizophrenia, the most common types of delusion are persecutory delusions (the conviction that one is being watched, followed, harassed, or harmed by others), delusions of reference (the conviction that neutral events or communications in the environment have a special personal significance), delusions of control (the belief that one's thoughts, actions, or bodily sensations are being controlled by external forces), and delusions of grandeur (beliefs about having special powers, status, or a special mission). The assessment of delusions in the Bangladeshi context requires careful attention to cultural norms: beliefs about the agency of jinn, the evil eye, or black magic may be culturally normative rather than delusional, and the clinician must distinguish between beliefs that are shared by the patient's cultural group and those that represent a genuine departure from the shared cultural reality.

Formal thought disorder refers to abnormalities in the form or structure of thinking, as opposed to its content. In schizophrenia, formal thought disorder can manifest as disorganized speech, in which the logical connections between ideas are weakened or absent (loosening of associations, or "derailment"), as tangentiality (responding to questions with answers that are obliquely related or unrelated), as circumstantiality (an indirect but eventually goal-directed pattern of speech), or, in severe cases, as "word salad" (completely incoherent speech in which words are strung together without intelligible grammatical or logical structure). Formal thought disorder is one of the most diagnostically important features of schizophrenia, but it can be difficult to assess across cultural and linguistic contexts, since it requires the clinician to evaluate the coherence of thinking in the patient's own language and cultural idiom.

***Negative symptoms** are symptoms that represent the diminution or absence of normal functions: they are losses or reductions of capacities that healthy individuals possess. They are often more disabling than positive symptoms in the long run and are much less responsive to current antipsychotic medications. Negative symptoms include:*

Affective flattening (or blunted affect), the marked reduction in the range and intensity of emotional expression. The person's face is relatively immobile, their voice flat in tone, and their eye contact reduced. This is not the same as depression (though it can coexist with it) and reflects a disturbance in the capacity for emotional expressivity.

Alogia (poverty of speech), characterized by brief, laconic responses to questions and an overall reduction in the amount and richness of spontaneous speech.

Avolition, the profound reduction in the motivation to initiate and sustain purposeful activities. The person may sit passively for long periods, neglect personal hygiene, and fail to pursue goals or maintain relationships, not because they lack interest (anhedonia) but because they lack the motivational drive to act.

Anhedonia, the reduced capacity to experience pleasure, affecting both the anticipation of pleasurable experiences and the actual experience of pleasure in the moment.

Social withdrawal, the reduction in social engagement and the preference for solitary activity.

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The distinction between "experiential" negative symptoms (reflecting genuine reductions in internal experience, such as anhedonia and blunted affect as inner states) and "expressive" negative symptoms (reflecting reductions in the outward expression of inner states) has become increasingly important in both research and clinical practice. As noted in recent clinical trial data from 2025, the CONVOKE study evaluated a digital therapeutic intervention (CT-155) specifically targeting experiential negative symptoms, measured using the Clinical Assessment Interview for Negative Symptoms, Motivation and Pleasure Scale (CAINS-MAP), recognizing that these represent "the core deficits that matter to patients and their families."

Cognitive symptoms *are pervasive in schizophrenia and are increasingly recognized as among its most functionally impairing features. The cognitive impairments in schizophrenia affect multiple domains, including working memory (the ability to hold and manipulate information in mind over short periods), attention and concentration, processing speed, verbal learning and memory, visual learning and memory, reasoning and problem-solving, and social cognition (the ability to perceive, interpret, and reason about social information including others' intentions and emotions). These impairments are present from the early stages of illness, predate the onset of frank psychosis in many cases, and are only partially responsive to current antipsychotic treatments.*

The cognitive impairments of schizophrenia are not merely associated with functional disability; they are among its strongest predictors of long-term functional outcome. A person who retains relatively good cognitive function despite positive and negative symptoms is much more likely to be able to work, maintain relationships, and live independently than one who is severely cognitively impaired. This is why the development of effective treatments for cognitive impairment in schizophrenia is one of the most important and frustrating unsolved problems in psychiatric therapeutics, as illustrated by the failure of iclepertin (a glycine reuptake inhibitor targeting NMDA receptor function) in the Phase III CONNEX trials reported in January 2025.

11.5 Diagnosis of Schizophrenia: ICD-11 and DSM-5-TR Criteria Compared

The diagnosis of schizophrenia has evolved substantially over time. The current diagnostic criteria are set out in the ICD-11 (which Bangladesh is in the process of adopting) and the DSM-5-TR (2022), and they share many features while differing in important details.

Under ICD-11, schizophrenia is diagnosed when there is a persistent psychotic syndrome (not explained by another medical condition or substance use) characterized by at least two of the following symptoms, one of which must be from the first four: persistent delusions; persistent hallucinations; disorganized thinking (formal thought disorder); experiences of influence, passivity, or control; negative symptoms; and disorganized behavior. The symptoms must have been present for at least one month. The ICD-11 has removed the requirement for certain "first-rank symptoms" (symptoms described by Kurt Schneider as highly specific to schizophrenia, including auditory hallucinations of voices discussing the patient in the third person, thought insertion, thought withdrawal, thought broadcast, and made acts) that featured in ICD-10, recognizing that these symptoms are less diagnostically specific than originally thought.

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Under DSM-5-TR, the diagnosis of schizophrenia requires two or more characteristic symptoms (delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, or negative symptoms) present for a significant portion of time during a one-month period (or less if successfully treated), with at least one of the symptoms being delusions, hallucinations, or disorganized speech. Additionally, there must be social or occupational dysfunction, and continuous signs of the disturbance must persist for at least six months.

The key differences between ICD-11 and DSM-5-TR for schizophrenia include: the DSM-5-TR has a stricter minimum duration requirement (six months total, including prodromal and residual phases) compared to ICD-11 (one month of active symptoms); the DSM-5-TR requires at least one of the two required symptoms to be from the "tier 1" symptoms (delusions, hallucinations, disorganized speech), while ICD-11 is slightly more flexible; and ICD-11 has formally removed the subtypes of schizophrenia (paranoid, disorganized, catatonic, undifferentiated, and residual) that appeared in ICD-10 and earlier DSM editions, reflecting the evidence that these subtypes have poor diagnostic stability over time.

A very important practical consideration for Bangladesh is that catatonia, which was a subtype in ICD-10 (catatonic schizophrenia), is now in ICD-11 recognized as a specifier applicable to multiple conditions (schizophrenia, bipolar disorder, depression, and others) and as a medical emergency requiring specific treatment. Catatonic presentations (stupor, waxy flexibility, mutism, negativism, posturing) are not uncommon in Bangladesh and are sometimes misidentified as possession states or severe depression. Their correct identification is critical because catatonia responds well to benzodiazepines and, if refractory, to electroconvulsive therapy (ECT), and untreated catatonia can lead to life-threatening complications.

11.6 The Neurobiology of Schizophrenia: From the Dopamine Hypothesis to the Multi-System Model

The neurobiology of schizophrenia has been the subject of an extraordinary volume of research over the past seven decades, and while many important insights have been obtained, a complete mechanistic account remains elusive. The history of neurobiological theories of schizophrenia is in some ways a cautionary tale about the dangers of premature certainty in psychiatric neuroscience.

The Dopamine Hypothesis

The dopamine hypothesis of schizophrenia, first formulated in the 1960s and 1970s based on the observation that antipsychotic drugs blocked dopamine D2 receptors and that drugs that increase dopaminergic activity (like amphetamines) could produce psychosis-like states, has been the dominant neurochemical theory of schizophrenia for half a century. The original hypothesis proposed that positive symptoms of schizophrenia arose from excessive dopaminergic activity in mesolimbic circuits (the "hyperdopaminergia" hypothesis).

This hypothesis has been substantially refined and extended over subsequent decades. Neuroimaging studies, particularly PET studies measuring D2 receptor occupancy and dopamine synthesis capacity, have found that people with schizophrenia show elevated dopamine

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synthesis and release in the striatum, providing direct in vivo support for striatal dopaminergic hyperactivity in active psychosis. At the same time, studies have found evidence of hypodopaminergic activity in the prefrontal cortex in schizophrenia, which may explain some of the negative and cognitive symptoms of the disorder.

The "revised dopamine hypothesis" of Kapur and Mamo (2003) introduced the concept of "aberrant salience": the idea that the core pathological process in psychosis is a dysregulation of the normal salience-tagging function of the dopamine system. In health, dopamine signals encode the significance or importance of stimuli, directing attention and motivational resources toward events that are relevant to goals and survival. In schizophrenia, dysregulated dopamine signaling leads to the inappropriate attribution of salience to irrelevant stimuli, creating a state in which random events and objects seem fraught with personal significance. This state of aberrant salience is experienced as deeply disturbing, and the person attempts to make sense of it by developing explanatory narratives, specifically delusions, that give coherent meaning to these bewildering experiences.

This theory has important clinical implications: it suggests that antipsychotics work not by simply blocking the false perceptions (hallucinations) or beliefs (delusions) but by dampening the aberrant salience that generates them. At high doses, they can do this too effectively, producing a state of emotional blunting and reduced motivation that resembles the negative symptom syndrome. The goal of optimal antipsychotic treatment is to normalize salience without over-dampening normal emotional and motivational functioning, which requires careful dose titration.

The Glutamate Hypothesis

The glutamate hypothesis of schizophrenia emerged from the observation that NMDA receptor antagonists, specifically phencyclidine (PCP) and ketamine, could produce in healthy individuals a syndrome that resembled schizophrenia more closely than amphetamine psychosis, including not only positive symptoms but also negative symptoms and cognitive impairment. This observation suggested that NMDA receptor hypofunction might be a pathological mechanism in schizophrenia.

The neurobiological basis for this hypothesis involves a cascade of effects: NMDA receptor hypofunction on GABAergic interneurons in the prefrontal cortex leads to a failure of inhibitory control over pyramidal neurons, resulting in a state of cortical disinhibition. This disinhibition leads to aberrant patterns of neural activity and dysregulated dopaminergic signaling (linking the glutamate and dopamine hypotheses). The prefrontal NMDA receptor hypofunction hypothesis provides an explanation for the cognitive symptoms of schizophrenia, since NMDA receptors are critical for the synaptic plasticity that underlies learning and memory.

As recently reviewed in a landmark 2026 paper in Nature Reviews Drug Discovery by Coyle and Paul, the recognition that the vast majority of drugs approved for schizophrenia over 70 years work primarily through dopamine D2 receptor blockade, while failing to adequately address negative symptoms and cognitive impairment, has driven substantial investment in glutamate-

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based therapeutics. The same paper noted that targets including cholinergic signaling (particularly muscarinic receptors) are now attracting major research and development interest.

Cobenfy and the Cholinergic Revolution

The most significant development in schizophrenia pharmacology in recent years is the FDA approval of Cobenfy (xanomeline-trospium chloride) in 2024, the first antipsychotic approved in decades with a primary mechanism that is not D2 receptor blockade. Xanomeline is a muscarinic M1 and M4 receptor agonist, and trospium is a peripheral muscarinic antagonist included to prevent the peripheral side effects of xanomeline. Cobenfy was approved for the treatment of schizophrenia in adults on the basis of clinical trial data showing significant reductions in PANSS (Positive and Negative Syndrome Scale) total scores.

The approval of Cobenfy represents a genuine paradigm shift in schizophrenia pharmacology and has generated enormous clinical and scientific excitement. Research from Tufts University published in 2025 has been examining in real-world settings which patients benefit most from this novel agent, recognizing that "the new drug targets different receptors in the nervous system than traditional antipsychotic drugs, which mainly block dopamine D2 receptors in the brain." The identification of predictive biomarkers for Cobenfy response is an important research priority that aligns directly with the goals of precision psychiatry.

For Bangladesh, Cobenfy is not yet accessible, both because of regulatory processes and because of cost. However, its development illustrates the broader point that schizophrenia pharmacology is moving beyond the exclusively dopaminergic framework that has dominated it for seven decades, and that new mechanistic approaches may eventually reach patients in low-resource settings, albeit with the usual time lag.

Neuroinflammation and Immune Dysregulation

Growing evidence implicates neuroinflammatory processes in the pathophysiology of schizophrenia. Postmortem brain studies, neuroimaging studies using PET ligands that detect activated microglia, and analyses of inflammatory markers in cerebrospinal fluid and blood have all found evidence of elevated neuroinflammation in schizophrenia. The microglia, the brain's resident immune cells, appear to be activated in schizophrenia and may contribute to synaptic pruning abnormalities that have been implicated in the neurodevelopmental pathology of the condition.

The complement system, a component of the innate immune system, has been particularly implicated in schizophrenia. A landmark 2016 paper in Nature by Sekar and colleagues found that genetic variants in the complement component 4 (C4) gene, which strongly affect the expression of C4 proteins in the brain, account for a significant portion of the genetic risk for schizophrenia. C4 proteins appear to be involved in synaptic pruning during adolescence, and variants that lead to increased C4A expression are associated with excessive synaptic pruning, which could explain the reductions in cortical gray matter volume and synaptic density observed in schizophrenia. This finding connects the genetic, neurodevelopmental, and neuroinflammatory dimensions of schizophrenia in a mechanistically compelling way.

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The Neurodevelopmental Hypothesis

The neurodevelopmental model of schizophrenia, which has accumulated strong evidence over the past three decades, proposes that schizophrenia arises from disruptions in brain development that begin long before the onset of psychosis. Evidence supporting this model includes: the prenatal and perinatal risk factors described earlier; the subtle cognitive, motor, and social abnormalities that can be detected in individuals who later develop schizophrenia, years before psychosis onset; the structural brain abnormalities (reduced cortical thickness, enlarged ventricles) that are present at the first episode and cannot be entirely attributed to medication effects; and the molecular evidence pointing to disruptions in the processes of neuronal migration, synaptogenesis, and synaptic pruning during fetal and early postnatal brain development.

The "two-hit" model of schizophrenia, referenced in a 2025 review from Cureus, proposes that perinatal insults create a latent vulnerability (the first hit) that is later unmasked by the biological and social stresses of adolescence (the second hit, often associated with the processes of adolescent synaptic pruning and the social challenges of this developmental period). This model provides an explanation for the characteristic late-adolescent onset of schizophrenia and for the importance of environmental risk factors even in the context of genetic vulnerability.

11.7 The Prodrome of Schizophrenia: Early Identification and Intervention

One of the most important clinical and public health advances in schizophrenia research over the past two decades has been the recognition and study of the "prodromal" or "at-risk mental state" that precedes the onset of frank psychosis in a substantial proportion of cases. Research groups in several countries, led by McGorry's group in Melbourne and Yung's work on the PACE clinic, have identified a syndrome of "attenuated psychotic symptoms" that predicts imminent psychotic onset, with a conversion rate to full psychosis of approximately 35 percent over two years in high-risk individuals.

The clinical staging model developed by Patrick McGorry and colleagues provides a framework for understanding the trajectory of schizophrenia and other psychotic disorders from pre-illness vulnerability, through the prodromal phase, to the first episode and subsequent course. This staging model has important implications for treatment: interventions delivered during the prodromal phase may be more effective in preventing progression to psychosis and in preserving cognitive and social functioning than interventions delivered after the onset of frank psychosis.

In Bangladesh, the recognition and clinical management of prodromal states is extremely limited. There are no specialized early psychosis intervention services, and the awareness of prodromal symptoms among general practitioners and other health workers is minimal. The development of culturally adapted psychoeducation about the early signs of psychosis, and of low-intensity, accessible intervention pathways for individuals with attenuated psychotic symptoms, represents an important and currently unmet clinical and public health need.

11.8 Antipsychotic Medications: Mechanisms, Efficacy, Side Effects, and the Challenge of Treatment Adherence in Bangladesh

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Antipsychotic medications remain the cornerstone of pharmacological treatment for schizophrenia and other psychotic disorders. Understanding their mechanisms of action, their clinical effects, their side effect profiles, and the challenges of prescribing them in a resource-limited context is essential for any psychiatrist or mental health professional working in Bangladesh.

First-Generation (Typical) Antipsychotics

The first-generation antipsychotics (FGAs), also called typical antipsychotics or conventional antipsychotics, include chlorpromazine, haloperidol, trifluoperazine, perphenazine, and fluphenazine, among others. They all work primarily through blockade of dopamine D2 receptors. They are effective for positive symptoms of schizophrenia (reducing the intensity and frequency of hallucinations and delusions) but have limited efficacy against negative symptoms and cognitive impairment. They are also associated with a significant burden of extrapyramidal side effects (EPS) including acute dystonia (painful muscle spasms), akathisia (a severely distressing sense of inner restlessness and compulsion to move), Parkinsonism (rigidity, bradykinesia, and tremor), and, with prolonged use, tardive dyskinesia (irreversible involuntary movements, particularly of the face and mouth).

In Bangladesh, FGAs, especially haloperidol and chlorpromazine, remain widely used because they are inexpensive, widely available, and familiar to prescribers. Haloperidol in particular is available in oral, intramuscular, and long-acting injectable formulations and can be obtained at very low cost. The risk of EPS with FGAs can be mitigated by careful dose management and by co-prescribing anticholinergic medications (procyclidine or trihexyphenidyl), though these medications have their own side effect profile including dry mouth, constipation, urinary retention, and cognitive impairment.

Tardive dyskinesia (TD) is a particular concern with long-term use of FGAs and deserves explicit discussion in the Bangladeshi context. TD is a syndrome of repetitive involuntary movements, most commonly affecting the face, lips, tongue, and jaw, that develops in a proportion of patients (estimates range from 5 to 10 percent per year of FGA exposure) and that may persist even after antipsychotic discontinuation. It causes significant distress and functional impairment, and in Bangladesh, where social stigma already burdens people with mental illness, the visible involuntary movements of TD can add an additional layer of shame and social exclusion. The VMAT2 inhibitors valbenazine (Ingrezza) and deutetrabenazine (Austedo) have been approved in the United States and other high-income countries for the treatment of TD, with recent 2025 data showing meaningful improvements even in older adults, but these agents are not yet available in Bangladesh.

Second-Generation (Atypical) Antipsychotics

The second-generation antipsychotics (SGAs), also called atypical antipsychotics, include clozapine, risperidone, olanzapine, quetiapine, aripiprazole, ziprasidone, amisulpride, asenapine, lurasidone, cariprazine, and lumateperone. They differ from FGAs in several important ways: they generally produce fewer EPS at standard clinical doses (though this advantage is less clear at higher doses and varies among agents); they are associated with

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improved efficacy for negative symptoms in some cases; and several of them have significant efficacy for mood symptoms (making them useful in bipolar disorder and psychotic depression). However, many SGAs carry their own significant side effect burdens, particularly metabolic effects: weight gain, glucose dysregulation, and dyslipidemia are particularly associated with olanzapine, clozapine, and quetiapine, and can contribute to the elevated cardiovascular risk observed in people with schizophrenia.

In Bangladesh, several SGAs are available, including risperidone (the most widely used), olanzapine, and quetiapine. Aripiprazole and other newer agents are available at higher cost and are largely accessible only to those who can pay out of pocket. Clozapine, which is the most effective antipsychotic for treatment-resistant schizophrenia, is available in Bangladesh but its use requires regular white blood cell count monitoring (to detect agranulocytosis, a rare but potentially fatal side effect), which creates practical barriers in resource-limited settings. Despite this, clozapine should be offered to patients who have failed to respond adequately to at least two other antipsychotics, as recommended by international guidelines.

Recent Phase 3 data from 2025 demonstrated that lumateperone 42 mg was effective as maintenance treatment in preventing relapse in schizophrenia, showing significant efficacy with low rates of extrapyramidal symptoms and no notable cardiometabolic changes, presenting a favorable long-term safety profile. This pharmacological profile makes lumateperone potentially useful for patients at high metabolic risk, but its current cost places it out of reach for most patients in Bangladesh.

Long-Acting Injectable Antipsychotics (LAIs)

One of the most important advances in schizophrenia pharmacology over the past two decades has been the development and increasing availability of long-acting injectable (LAI) antipsychotics, also called depot antipsychotics. These formulations, which are administered as intramuscular injections at intervals ranging from two weeks to three months (or, in recent formulations, six months to one year), provide sustained therapeutic drug levels without requiring daily oral dosing. This significantly reduces the problem of medication non-adherence, which is among the major causes of relapse in schizophrenia. Studies consistently show that 40 to 60 percent of people with schizophrenia have significant difficulty adhering to daily oral medication regimens, a problem that is particularly acute in the first years after diagnosis.

In Bangladesh, fluphenazine decanoate and haloperidol decanoate (first-generation LAIs) are available and affordable. The second-generation LAIs (risperidone long-acting injection, paliperidone palmitate in monthly and three-monthly formulations, and aripiprazole lauroxil) are available but expensive. The clinical evidence strongly supports the use of LAIs in patients who have experienced relapse due to non-adherence, and expanding access to affordable LAI formulations is an important clinical priority in Bangladesh.

The Challenge of Treatment Adherence

Treatment non-adherence is perhaps the most practically important clinical problem in the management of schizophrenia in Bangladesh. The factors contributing to non-adherence are

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multiple and overlapping: lack of illness insight (one of the defining features of psychosis is that it often impairs the person's ability to recognize that they are ill, making the acceptance of treatment difficult); medication side effects that are experienced as worse than the illness itself (particularly EPS and sedation with FGAs, and weight gain and metabolic effects with SGAs); the cost and logistics of obtaining medication (particularly in rural areas where pharmacies may not stock psychiatric medications); stigma, both the stigma of having a mental illness and the stigma of taking psychiatric medication; and family attitudes toward medication (families who attribute the illness to spiritual causes may be skeptical of medication and may actively discourage it).

Addressing non-adherence requires a multi-pronged approach: careful attention to side effect management and dose optimization; psychoeducation for both the patient and their family about the nature of schizophrenia and the role of medication; the use of LAIs when appropriate; shared decision-making that takes into account the patient's own priorities and concerns; and community follow-up systems that identify non-adherence early and respond before relapse occurs.

11.9 Non-Pharmacological Treatments for Schizophrenia: Evidence and Bangladesh Relevance

Medication is essential but not sufficient for the comprehensive management of schizophrenia. Evidence-based non-pharmacological treatments are increasingly recognized as critical components of care, and their implementation is an important priority even in resource-limited settings.

Cognitive-Behavioral Therapy for Psychosis (CBTp)

CBTp is a specific adaptation of CBT for use with people experiencing psychosis. It works on the premise that, while the neurobiological abnormalities underlying schizophrenia cannot be directly addressed through psychological means, the distress and functional impairment associated with psychotic symptoms can be significantly reduced through techniques that help the person develop a more manageable relationship with their experiences. CBTp techniques include: normalizing (helping the person understand that psychotic experiences lie on a continuum with normal experience and are not signs of being "mad"), developing a shared understanding of the person's experiences and their triggers, developing coping strategies for specific symptoms (for example, techniques for responding to distressing voices), and addressing the cognitive biases (such as jumping to conclusions) that may maintain delusional beliefs.

The evidence base for CBTp is substantial. A 2025 treatment review confirms that CBTp combined with medication produces better outcomes than medication alone, with benefits maintained for months after therapy ends. Importantly, CBTp does not require the person to relinquish their beliefs but works with them to reduce the distress and impairment they cause. This makes it particularly applicable in cultural contexts where the person's explanatory model differs from the biomedical one.

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In Bangladesh, CBTp is not currently available in routine practice, but there is growing interest in developing simplified, culturally adapted versions that could be delivered by trained community workers or via digital platforms. The development of such approaches is an important research and implementation priority.

Family Psychoeducation and Family Intervention

Family members of people with schizophrenia face an enormous burden of care, often with minimal support or information. Evidence from multiple cultures shows that psychoeducational interventions for families, which provide information about schizophrenia, its management, and communication strategies, can significantly reduce relapse rates and improve functional outcomes. The mechanism appears to involve the reduction of "expressed emotion" (EE), specifically critical comments, hostility, and emotional over-involvement, in family communication. High EE in the family environment is a robust predictor of relapse in schizophrenia, and interventions that help family members communicate more supportively and less critically can reduce relapse risk by 50 percent or more.

In Bangladesh, the family is typically the primary source of support and care for people with schizophrenia, and family psychoeducation is therefore a particularly high-priority intervention. The challenge is to develop culturally appropriate educational materials and delivery formats that can be used in the Bangladeshi context. Materials should be available in plain Bengali, should incorporate local idioms and examples, should address the specific concerns of Bangladeshi families (including stigma and its management, the implications for marriage, and the role of faith and spiritual practice in coping), and should be deliverable in primary care or community settings.

Cognitive Remediation Therapy (CRT)

Cognitive remediation therapy (also called cognitive rehabilitation) consists of structured exercises designed to improve specific cognitive functions that are impaired in schizophrenia, including attention, memory, and executive function. These exercises, which are delivered through computerized programs or through paper-and-pencil tasks, have been shown in meta-analyses to produce modest but meaningful improvements in cognitive function and in daily functioning. CRT is most effective when combined with other psychosocial interventions and when the cognitive skills developed in therapy are applied to real-life activities (a principle called "transfer of training").

Digital therapeutic platforms for cognitive remediation are now available and have shown promise in clinical trials. The 2025 CONVOKE study evaluated CT-155, a digital therapeutic specifically targeting experiential negative symptoms, and found statistically significant reductions in negative symptoms with high patient engagement. While these digital approaches are not yet available in Bangladesh, they represent a potentially scalable technology that could reach patients in low-resource settings as digital infrastructure improves.

Supported Employment

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The Individual Placement and Support (IPS) model of supported employment helps people with severe mental illness, including schizophrenia, to obtain and maintain competitive employment in the open labor market. It is based on the principle that employment is a legitimate therapeutic goal for people with mental illness and that, with appropriate support, many people with schizophrenia are capable of working. The evidence from randomized controlled trials in high-income countries is very strong: IPS produces significantly higher rates of competitive employment than traditional vocational rehabilitation.

The applicability of IPS in Bangladesh needs adaptation for the informal labor market context and for the different cultural attitudes toward work and disability. There are no established IPS programs in Bangladesh at present, but several NGOs are developing vocational training and supported livelihood programs for people with mental illness that incorporate some IPS principles.

11.10 The Long-Term Course of Schizophrenia: Recovery, Chronicity, and Resilience

The long-term prognosis of schizophrenia is considerably more varied than the pessimistic view implied by Kraepelin's concept of dementia praecox. Longitudinal studies spanning 20 to 40 years have consistently found that a substantial proportion of people diagnosed with schizophrenia in early adulthood achieve significant functional recovery by middle age, sometimes without ongoing pharmacological treatment. The WHO's International Study of Schizophrenia, conducted across ten countries including several low- and middle-income countries, found that outcomes were generally better in developing countries than in high-income countries, a finding that has been debated and explained in various ways, including the potentially buffering effect of extended family support structures and the availability of meaningful social roles in traditional agrarian economies.

This finding has important implications for Bangladesh. The extended family structure that characterizes Bangladeshi society, while it can be a source of stigma and constraint, may also provide the social support and sense of belonging that promotes recovery. The availability of meaningful livelihood activities in the agricultural and informal economic sectors may provide rehabilitation opportunities that are not available in post-industrial economies. And the less complete deinstitutionalization of Bangladeshi psychiatry means that people with schizophrenia are more likely to remain embedded in their communities, with the social connections that this entails.

At the same time, it is important not to romanticize the situation. Many people with schizophrenia in Bangladesh experience a chronic and severely disabling course, often because of inadequate treatment, poor support, and the corrosive effects of stigma and poverty. The promotion of recovery requires not only appropriate clinical care but sustained social support, meaningful social inclusion, and the reduction of the environmental adversities that impede recovery.

11.11 Schizophrenia in Bangladesh: Case Studies and Clinical Illustrations

Case Study 11.1: First Episode Psychosis in an Urban Migrant

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Karim is a 24-year-old man from Barisal district who moved to Dhaka three years ago to work in a garment factory. Over a period of about two months, he began to experience increasingly distressing perceptual experiences: he heard a voice, which he identified as male, speaking to him and telling him he was a spy and would be killed. He became convinced that his factory manager and several co-workers were involved in a conspiracy to harm him and was sending reports about him to "authorities." He began sleeping very little, eating erratically, and performing poorly at work. One day he physically attacked his supervisor, believing him to be a member of the conspiracy. He was brought to a police station and then transferred to the psychiatric emergency unit at a Dhaka hospital.

On assessment, Karim was found to have auditory hallucinations (a commanding male voice), persecutory delusions (systematic and elaborate), ideas of reference, marked formal thought disorder (loosening of associations, tangentiality), disturbed sleep, reduced appetite, and agitation. His personal history revealed that he had been a high-functioning student in his village, had no previous psychiatric contact, had no family history of mental illness he was aware of, and had no significant substance use. The admission MSE confirmed a first episode of psychosis meeting criteria for schizophrenia under ICD-11, though the possibility of a schizophreniform or brief psychotic disorder was kept in mind given the acute presentation.

Haloperidol 5 mg twice daily was initiated with procyclidine 5 mg twice daily to prevent EPS. Within a week, his agitation had reduced and the intensity of the hallucinations diminished. Over the subsequent four weeks, his delusions became less fixed, and his insight improved. Psychoeducation was provided to him and, with his consent, to his father who traveled from Barisal. The importance of continued medication and the risk of relapse with non-adherence were discussed. A plan was made for follow-up at the psychiatric outpatient clinic, with the longer-term goal of switching to a second-generation antipsychotic and considering an LAI formulation once he was stable.

Social challenges were substantial: Karim had lost his job during his hospitalization, was anxious about the stigma of his hospitalization becoming known in his home community, and was uncertain about his future. A social worker helped him to think through options for supported re-employment and explored the possibility of connecting him with a community mental health worker for ongoing follow-up in his neighborhood.

Key learning points: The importance of the social and migratory context; the need for rapid and appropriate pharmacological intervention; the critical role of psychoeducation from the first episode; the challenge of social reintegration; and the need for longitudinal follow-up to prevent relapse.

Case Study 11.2: Treatment-Resistant Schizophrenia and the Clozapine Question

Nasreen is a 38-year-old woman from Dhaka. She was first diagnosed with schizophrenia at age 22, following a first episode characterized by severe auditory hallucinations and persecutory delusions. She has been treated with a succession of antipsychotics over the subsequent 16 years: chlorpromazine (discontinued due to severe sedation and EPS), trifluoperazine (some response but persistent symptoms), risperidone (partial response, but significant weight gain and

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amenorrhea), and olanzapine (significant weight gain and metabolic disturbance, with only modest symptom improvement). Despite these treatments, she continues to experience persistent and distressing auditory hallucinations (voices telling her to harm herself) and persecutory delusions.

She has been hospitalized on five occasions, most recently six months ago following a suicidal gesture in response to command hallucinations. Her functioning is severely impaired: she cannot maintain employment, has lost most of her social relationships, and is entirely dependent on her elderly parents for care. Her parents are themselves aging and unwell, and the family is in severe financial difficulty.

A review of her case led to the recommendation that she be started on clozapine, which by consensus guidelines is the treatment of choice for treatment-resistant schizophrenia (defined as inadequate response to at least two different antipsychotics at adequate dose and duration). The clinician counseled Nasreen and her parents carefully about the benefits and risks of clozapine, the need for regular blood count monitoring, and the logistics of obtaining the medication. Clozapine was initiated at 12.5 mg at night and titrated slowly over six weeks to 300 mg daily. Blood counts were checked weekly for the first 18 weeks.

Over the following three months, a meaningful improvement was observed: the voices became less frequent and less distressing, the persecutory beliefs diminished in intensity, and Nasreen's functioning improved, with her resuming some domestic activities and beginning to attend a community mental health support group. The medication was well tolerated, with some hypersalivation managed with a small dose of amitriptyline and some initial sedation that resolved after the first two weeks.

Key learning points: The definition and management of treatment-resistant schizophrenia; the evidence base and clinical rationale for clozapine; the practical challenges of clozapine prescribing in Bangladesh; the importance of careful family involvement; and the importance of psychosocial support alongside medication.

Case Study 11.3: Schizophrenia, Traditional Healing, and the Interface of Medicine and Spirituality

Arif is a 30-year-old man from a village in Comilla district. He began hearing voices and developing unusual beliefs about two years before presentation. His family first took him to a local kabiraj, who performed rituals over several months with limited benefit. They then took him to a Sufi shrine, where he stayed for three months in conditions that were basic but not abusive. The shrine's caretakers reported that Arif's condition had improved initially but then deteriorated. The family finally brought him to a psychiatrist at the divisional hospital after he became severely disturbed, unable to eat or sleep, and potentially dangerous to himself.

On psychiatric assessment, Arif had been experiencing auditory hallucinations, grandiose and persecutory delusions, and marked formal thought disorder for over 18 months. His cognitive functioning was impaired. He had developed the illness at a young age and had an extended

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period of untreated psychosis (approximately 18 months), which is a major adverse prognostic factor. He was started on risperidone and showed partial improvement.

In managing his care, the psychiatrist took care to engage respectfully with the family's understanding of Arif's condition. The family continued to believe that a spiritual component to his illness was possible and wanted to continue some traditional practices alongside medication. The clinician affirmed that this could be accommodated provided the traditional practices did not harm Arif or interfere with his medication, and an explicit collaborative agreement was reached. This collaborative approach maintained the family's engagement and supported Arif's adherence to medication.

Key learning points: The Duration of Untreated Psychosis (DUP) as a prognostic factor; the cultural and spiritual dimensions of psychosis management in Bangladesh; the importance of respectful collaboration between biomedical and traditional healing frameworks; and the role of family engagement in long-term management.

CHAPTER TWELVE: OTHER PSYCHOTIC DISORDERS - BEYOND SCHIZOPHRENIA

12.1 Schizoaffective Disorder

Schizoaffective disorder occupies a contested and somewhat uncomfortable position in psychiatric nosology, at the boundary between schizophrenia and mood disorders. It is diagnosed when there is an uninterrupted period of illness during which there are both prominent psychotic symptoms (meeting criteria for schizophrenia) and a major mood episode (either depressive or manic), with the psychotic symptoms also present for at least two weeks in the absence of the mood episode. This requirement of psychotic symptoms "independent" of the mood episode is intended to distinguish schizoaffective disorder from psychotic mood disorders (psychotic depression or bipolar disorder with psychotic features), in which psychotic symptoms occur only in the context of mood episodes.

The validity of schizoaffective disorder as a distinct diagnostic category has been questioned. Studies of its longitudinal course, genetic architecture, and treatment response suggest that it occupies an intermediate position on a continuum between schizophrenia and bipolar disorder rather than being a qualitatively distinct entity. The ICD-11 retains schizoaffective disorder as a category but acknowledges its uncertain status; the DSM-5 has made the diagnostic criteria more stringent in an attempt to improve reliability.

The management of schizoaffective disorder requires attention to both the psychotic and mood components. Antipsychotic medication is typically necessary; mood stabilizers (lithium, valproate, lamotrigine) may be added depending on the polarity of the mood component; and antidepressants may be used for the depressive type, though with caution given the risk of precipitating mania. The psychosocial management follows similar principles to schizophrenia.

12.2 Delusional Disorder

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Delusional disorder is characterized by the presence of one or more persistent delusions in the absence of the other characteristic symptoms of schizophrenia (no prominent hallucinations, no marked formal thought disorder, and relatively preserved psychosocial functioning outside the area of the delusion). The delusions in delusional disorder tend to be non-bizarre and plausible in principle (for example, the belief that one's spouse is being unfaithful, the belief that one has a serious medical illness, the belief that one is being persecuted by neighbors), in contrast to the often bizarre delusions of schizophrenia (such as the belief that one's brain has been replaced by an electronic device).

The major subtypes of delusional disorder include: persecutory (the belief that one is being plotted against, spied upon, or harassed), erotomanic (the belief that another person, typically of higher status, is in love with the subject), grandiose (the belief that one has special powers, status, or a special mission), somatic (the belief that one has a bodily condition or infestation), and jealous (the belief that one's partner is unfaithful).

In Bangladesh, delusional disorder presents some important clinical challenges. The jealous subtype is particularly relevant in a cultural context where accusations of spousal infidelity can have severe social and even legal consequences; the clinician must carefully assess whether the jealousy is pathological (based on misinterpretation of innocent events and resistant to evidence) or based on actual infidelity. The somatic subtype may overlap with the common presentation of health anxiety and somatization in Bengali patients. The persecutory subtype must be distinguished from genuinely held cultural beliefs about the evil eye or supernatural persecution.

Treatment of delusional disorder is generally less effective than for schizophrenia: antipsychotic medications may reduce the intensity and preoccupation with delusions but often do not eliminate them, and insight is typically very limited, making engagement with treatment difficult. Cognitive-behavioral approaches that do not directly challenge the delusion but work on reducing distress and improving functioning may be useful.

12.3 Brief Psychotic Disorder and Schizophreniform Disorder

Brief psychotic disorder is defined by the sudden onset of psychotic symptoms (delusions, hallucinations, disorganized speech, or grossly disorganized behavior) that last for at least one day but less than one month, with full return to pre-morbid functioning. This condition is particularly interesting in the Bangladeshi context because it appears to be relatively common in settings where acute psychosis is precipitated by severe stress, including bereavement, natural disaster, and interpersonal trauma. Brief psychotic disorder may be the appropriate diagnosis for some cases that might initially appear to be schizophrenia, and its recognition is important because its prognosis is considerably better.

Schizophreniform disorder shares the same criteria as schizophrenia but has a shorter duration (one to six months of active symptoms). It may represent either a first episode of what will prove to be schizophrenia (if the illness persists beyond six months) or a self-limiting psychotic episode.

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The management of both conditions involves short-term antipsychotic treatment and careful monitoring for either resolution or evolution into schizophrenia. The opportunity for recovery should be communicated clearly to patients and families, without false reassurance about prognosis before a sufficient period of observation has passed.

12.4 Substance-Induced Psychotic Disorder in Bangladesh: The Yaba Crisis

Substance-induced psychotic disorder, psychosis that develops in the context of substance use and resolves when the substance is removed, deserves particular attention in Bangladesh because of the epidemic of yaba use that has developed in the country over the past two decades.

Yaba (the Thai word for "crazy medicine") is a tablet containing a combination of methamphetamine and caffeine. It is inexpensive, widely available, and highly addictive. Bangladesh has become one of the major transit and destination countries for yaba from Myanmar, and the drug is now used extensively, particularly among young men in urban and peri-urban areas, among long-distance truck drivers and transport workers, among garment industry workers seeking to extend their working hours, and among certain rural communities.

Methamphetamine is a powerful dopamine agonist: it releases massive amounts of dopamine and blocks its reuptake, producing a state of intense dopaminergic activity in mesolimbic circuits. This is precisely the type of dopaminergic dysregulation implicated in the positive symptoms of schizophrenia, and indeed, methamphetamine psychosis is clinically indistinguishable from schizophrenic psychosis in the acute phase. With cessation of methamphetamine use, psychotic symptoms typically resolve over days to weeks, though in some individuals, particularly those with genetic vulnerability to schizophrenia, yaba use may trigger a persistent psychotic disorder that does not fully resolve.

The implications for clinical practice in Bangladesh are significant. Any young person presenting with acute psychosis should be carefully questioned about yaba and other substance use, and urine toxicology should be performed when possible. A history of yaba use does not preclude the diagnosis of schizophrenia if psychotic symptoms persist after a prolonged period of abstinence, but it does suggest that substance-induced psychosis is more likely and that a period of observation is warranted before a schizophrenia diagnosis is made.

CHAPTER THIRTEEN: MOOD DISORDERS - DEPRESSION, BIPOLAR DISORDER, AND THE LANDSCAPE OF AFFECTIVE ILLNESS

13.1 Introduction: The Burden of Mood Disorders

Mood disorders, encompassing the broad spectrum of depressive and manic states, represent the most prevalent of all psychiatric conditions and a major cause of disability worldwide. The World Health Organization estimates that major depression alone affects more than 300 million people globally and is the leading cause of disability in terms of years lived with disability. In Bangladesh, as noted in Part One, depression has a prevalence of approximately 5.2 percent

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among adults, suggesting that more than 7 million Bangladeshi adults are living with major depression at any given time. If one adds to this the burden of persistent depressive disorder (dysthymia), adjustment disorder with depressed mood, and the sub-threshold depressive states that cause significant suffering without meeting full diagnostic criteria, the total burden is vastly larger.

Yet mood disorders remain substantially underdiagnosed and undertreated in Bangladesh. The reasons are familiar from Part One: limited mental health literacy, somatic presentation of psychological distress, stigma, the attribution of mood symptoms to physical illness or to spiritual causes, and the absence of accessible mental health services. The consequences of untreated depression are severe: impaired functioning at work and in the family, increased physical illness and mortality (depression significantly increases the risk of cardiovascular disease, diabetes complications, and other physical conditions), and suicide.

13.2 Major Depressive Disorder: Clinical Features, Subtypes, and Diagnostic Considerations

Major depressive disorder (MDD) is diagnosed when five or more of the following nine symptoms are present during the same two-week period and represent a change from previous functioning, with at least one of the symptoms being depressed mood or loss of interest/pleasure: depressed mood most of the day, nearly every day; markedly diminished interest or pleasure in all or almost all activities; significant weight loss when not dieting, or weight gain, or changes in appetite; insomnia or hypersomnia; psychomotor agitation or retardation observable by others; fatigue or loss of energy; feelings of worthlessness or excessive or inappropriate guilt; diminished ability to think or concentrate, or indecisiveness; and recurrent thoughts of death, recurrent suicidal ideation without a specific plan, a suicide attempt, or a specific plan for committing suicide.

The diagnosis of MDD in Bangladesh requires particular attention to the cultural presentation of depression. As discussed in Part One, Bengali speakers tend to express psychological distress through somatic idioms: headache, body pain, weakness, palpitations, and a sense of "heat" or "heaviness" in the body. The emotion of "koshtho" (translated variously as sorrow, suffering, or distress) is a culturally specific affect that captures something of the phenomenology of depression but does not map precisely onto the DSM/ICD concept. The clinician in Bangladesh must be skilled at facilitating the expression of the underlying affective experience through these somatic and culturally specific idioms, rather than assuming that the absence of a direct emotional complaint means the absence of depression.

Several important clinical features deserve mention:

***Melancholic Depression** is a subtype characterized by profound loss of pleasure (anhedonia that is pervasive and not merely reduced), depression that is worse in the morning, early morning awakening (at least two hours before the usual time), marked psychomotor retardation or agitation, significant anorexia or weight loss, and excessive or inappropriate guilt. Melancholic depression has important clinical implications because it is more likely to respond to biological treatments (particularly antidepressants and ECT) and may be less responsive to psychotherapy alone.*

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Atypical Depression *is a subtype characterized by mood reactivity (the capacity for mood brightening in response to positive events), hypersomnia (sleeping too much rather than too little), increased appetite (particularly for carbohydrates), a leaden paralysis (heavy feelings in the limbs), and long-standing sensitivity to interpersonal rejection. Atypical depression may be more prevalent in Bangladesh than is recognized, given that hypersomnia and appetite increase can be culturally expressed as "laziness" or "weakness" rather than as psychiatric symptoms.*

Psychotic Depression *occurs when severe depressive episodes are accompanied by delusions or hallucinations. The content of psychotic symptoms in depression is typically mood-congruent: delusions of guilt, worthlessness, or nihilism (the belief that one's internal organs have rotted away, or that the world is about to end). Psychotic depression is a serious condition with high suicide risk and typically requires combination treatment with an antidepressant and an antipsychotic, or ECT.*

Postpartum Depression *occurs in the weeks and months following childbirth and affects approximately 10 to 15 percent of women who give birth globally. In Bangladesh, the prevalence of postpartum depression is estimated to be higher, approximately 20 to 25 percent in some studies, reflecting the elevated burden of social risk factors including poverty, domestic violence, lack of social support, and the pressures associated with having borne a daughter rather than a son in a strongly son-preferring culture. Postpartum depression is often unrecognized in Bangladesh, partly because the somatic symptoms of fatigue and appetite disturbance are attributed to the physical demands of childbirth and breastfeeding, and partly because of reluctance to disclose psychological distress around what should, culturally, be a happy time.*

Persistent Depressive Disorder (Dysthymia) *is a chronic form of depression in which the person experiences depressed mood for most of the day, more days than not, for at least two years. The symptoms are typically less severe than in MDD but their chronicity produces substantial cumulative disability. In Bangladesh, persistent depressive disorder may be particularly prevalent among people in chronically adverse social circumstances, including women experiencing chronic domestic violence and people in chronic poverty.*

13.3 The Neurobiology of Depression: From Monoamines to the Multimodal Model

The neurobiology of depression has been one of the most intensively studied areas in all of medicine over the past six decades, yet a complete and satisfying mechanistic account remains elusive. The history of neurobiological theories of depression mirrors in many ways the history of its treatment: major advances have been made, but each advance has revealed the inadequacy of the preceding framework.

The Monoamine Hypothesis and Its Revision

The monoamine hypothesis of depression, formulated in the 1960s, proposed that depression was caused by a deficiency of monoamine neurotransmitters, particularly norepinephrine and serotonin, in relevant brain circuits. This hypothesis was supported by two key observations: reserpine, a drug that depletes monoamine stores, could cause depression-like states, and the

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antidepressants that were discovered in the 1950s and 1960s (MAOIs and tricyclics) all increased monoamine levels at synapses.

The development of SSRIs in the 1970s and 1980s, which specifically increase serotonin without significantly affecting norepinephrine or dopamine, led to the more specific "serotonin deficiency" theory of depression that was promoted widely, not always accurately, to patients and the public as an explanation of what depression "is" and why antidepressants work. The controversies around this theory, inflamed by the 2022 Moncrieff umbrella review discussed in Part One, have led to a more nuanced understanding: serotonin is involved in depression, but the relationship is far more complex than simple deficiency, and other neurotransmitter systems are equally or more important.

The monoamine hypothesis has now been substantially superseded by more complex multimodal accounts that emphasize the following:

***Neuroplasticity and BDNF**: The neurotrophic hypothesis of depression proposes that depression is associated with reduced expression of brain-derived neurotrophic factor (BDNF), a key promoter of neuronal survival, growth, and synaptic plasticity, particularly in the hippocampus and prefrontal cortex. Chronic stress reduces BDNF expression, producing hippocampal atrophy and reduced synaptic connectivity. Antidepressants of various types, including SSRIs, tricyclics, ECT, and exercise, all increase BDNF expression, and this may be a common final pathway for their therapeutic effects. This hypothesis is particularly compelling in light of the finding that the antidepressant effects of these treatments typically take two to four weeks to develop, a time course consistent with the time needed for neurotrophic and neuroplastic changes rather than the rapid pharmacological effects on neurotransmitter levels.*

***Neuroinflammation**: Growing evidence, synthesized in a 2025 review in Pharmacological Reports, indicates that neuroinflammatory processes are involved in a significant subgroup of depression cases. Elevated levels of pro-inflammatory cytokines (IL-6, IL-1 beta, TNF-alpha, and CRP) are found in a subset of depressed patients, and these cytokines can produce depression-like behaviors by affecting monoamine metabolism (activating the kynurenine pathway, which diverts tryptophan away from serotonin synthesis), by impairing synaptic plasticity, and by disrupting the hypothalamic-pituitary-adrenal (HPA) axis. This inflammatory subtype of depression may be a specific clinical phenotype with its own treatment implications, including possible response to anti-inflammatory treatments. Interleukin-6 inhibition, for example, is being studied as a potential antidepressant strategy. This is of particular relevance in Bangladesh, where systemic inflammatory conditions (including infectious diseases, malnutrition, and high allostatic load from chronic stress) are common and may contribute to depression through inflammatory mechanisms.*

***HPA Axis Dysregulation**: The HPA axis, which mediates the stress response through the release of cortisol from the adrenal cortex, is dysregulated in a significant proportion of people with depression. Hypercortisolemia (elevated cortisol), failure of the normal suppression of cortisol by dexamethasone (the "dexamethasone non-suppression" finding that was once proposed as a biological test for depression), and altered feedback regulation of the HPA axis have all been documented in depression. Cortisol has neurotoxic effects on the hippocampus and impairs the*

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neuroplastic processes that antidepressants seek to promote. The HPA axis is a critical mediator of the relationship between stress and depression, and its dysregulation connects the psychological experience of stress with the biological abnormalities of depressive illness.

***The Glutamate System and Ketamine**: The most dramatic recent development in depression neuroscience and treatment is the discovery of the rapid antidepressant effects of ketamine. Ketamine, an NMDA receptor antagonist used for decades as an anesthetic and more recently as a recreational drug ("Special K"), was found in the early 2000s to produce significant antidepressant effects within hours of a single intravenous infusion at subanesthetic doses, in patients who had failed to respond to multiple standard antidepressants. This finding was genuinely revolutionary: for decades, all available antidepressants shared the common feature of slow onset (two to four weeks for therapeutic effects), and the finding of rapid antidepressant action opened up entirely new theoretical and practical possibilities.*

As comprehensively reviewed in a 2026 paper in the International Journal of Molecular Sciences, the mechanism of ketamine's antidepressant effects involves NMDA receptor antagonism leading to rapid activation of AMPA receptors, downstream activation of BDNF-TrkB signaling, enhanced synaptic plasticity, and structural changes including rapid synaptogenesis in prefrontal cortical neurons. In essence, ketamine appears to rapidly reverse the synaptic and structural deficits that accumulate in depression, producing what has been described as a "synaptic reset." Neuroimaging studies using fMRI have demonstrated changes in default mode network connectivity and in amygdala function following ketamine that correlate with mood improvement.

Esketamine (the S-enantiomer of ketamine), delivered as an intranasal spray, received FDA approval in 2019 for treatment-resistant depression (in combination with an oral antidepressant) and in 2020 for major depressive disorder with acute suicidal ideation. As of 2026, ketamine and esketamine are well established in clinical practice in high-income countries for treatment-resistant depression, with 374 clinical trials involving ketamine listed on ClinicalTrials.gov as of November 2025. Research is now focused on improving the durability of ketamine's antidepressant effects (which typically last days to weeks after a single infusion), understanding which patients respond best, and developing safer and more accessible formulations. A single-dose preservative-free ketamine formulation (NRX-100) has received FDA Fast Track designation for suicidal depression, with regulatory decisions expected by mid-2026.

For Bangladesh, ketamine as an intravenous antidepressant is not currently available in routine practice. However, ketamine is used as an anesthetic in Bangladesh, and its potential antidepressant applications in treatment-resistant cases could, in principle, be explored in specialist settings. The cost and monitoring requirements for esketamine nasal spray remain prohibitive in the current Bangladeshi health system context. Nevertheless, the ketamine story illustrates the potential for pharmacological innovation to transform the treatment of severe depression, and it provides a powerful stimulus for thinking about how effective treatments can be made accessible in resource-limited settings.

***Psilocybin-Assisted Therapy**: Psilocybin, the active compound in "magic mushrooms," is emerging as one of the most promising agents in depression treatment research. As an agonist of*

5-HT2A serotonin receptors, it produces profound alterations in consciousness, perception, and cognition that, when administered in a therapeutic context with appropriate preparation and integration support, appear to produce lasting improvements in depression. Systematic reviews of randomized controlled trials have found that psilocybin is significantly more effective than placebo in reducing depressive symptoms, with benefits maintained at six months in over 50 percent of patients in some studies.

The mechanism appears to involve neuroplastic changes (increased synaptic density, similar to ketamine) and functional reorganization of neural networks, particularly the default mode network, which is overactive in depression and associated with rumination and negative self-referential thinking. A 2025 review of the growing clinical trial database (92 trials registered as of November 2025) highlights both the promise of psilocybin for MDD and treatment-resistant depression and the remaining questions about optimal dosing, patient selection, and long-term safety.

In Bangladesh, psilocybin is currently a controlled substance and psychedelic-assisted therapy is not an available treatment option. However, the psychedelic research revolution that is underway globally has potential long-term implications for psychiatry in low-resource settings, both through the direct development of scalable psychedelic therapies and through the insights it provides into the neuroplasticity-based mechanisms of depression and its treatment.

13.4 Treatment of Depression in Bangladesh: A Practical Clinical Framework

The treatment of depression in Bangladesh requires a practical framework that is realistic about the available resources while drawing on the full range of evidence-based approaches. The following outlines the key elements of this framework.

Step 1: Recognition and Assessment

The first challenge in treating depression in Bangladesh is recognizing it. Many patients present with somatic complaints rather than emotional ones, and the primary care system is not well equipped to recognize and assess depression. Using the PHQ-9 (which has been validated in Bengali) as a screening and severity assessment tool in primary care settings is a practical and evidence-based approach. A PHQ-9 score of 5 or above suggests depression, with scores of 5-9 indicating mild, 10-14 moderate, 15-19 moderately severe, and 20-27 severe depression.

Assessment should include evaluation of severity, functional impairment, suicidal ideation and risk, psychotic features, and bipolar features (a history of manic or hypomanic episodes must be excluded before antidepressant treatment is initiated, as antidepressants can precipitate mania in bipolar disorder). Assessment of the precipitating and perpetuating social factors (domestic violence, financial stress, bereavement) is equally important and should inform the treatment plan.

Step 2: Psychoeducation and Collaborative Treatment Planning

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Psychoeducation is an essential component of depression treatment and should be provided to both the patient and their family from the outset. Key messages include: depression is a medical condition with effective treatments; it is not a character weakness or a moral failure; it is not caused by supernatural forces (though one can acknowledge the patient's own spiritual framework while also providing the biomedical explanation); medication takes several weeks to produce full effect; and with appropriate treatment, the great majority of people with depression recover fully.

Treatment planning should be collaborative, taking into account the patient's own preferences, their social circumstances, and the available resources. Not every patient with depression needs antidepressant medication; patients with mild depression may benefit from psychoeducation, behavioral activation (a structured approach to increasing engagement with rewarding activities), and social support alone. But patients with moderate to severe depression generally benefit from antidepressant medication, and the evidence for the efficacy of antidepressants at moderate-severe severity is robust.

Step 3: Pharmacological Treatment

For patients with moderate to severe depression in Bangladesh, fluoxetine is typically the first-line antidepressant of choice, based on its relatively favorable efficacy/side effect balance, the availability of generic formulations at low cost, and the accumulating clinical experience with its use in Bangladeshi patients. The starting dose is 10-20 mg daily, increasing to 20-40 mg daily as tolerated. A therapeutic trial should last at least six to eight weeks at adequate dose before concluding that there is non-response.

Other SSRIs (sertraline, escitalopram, paroxetine) and SNRIs (venlafaxine, duloxetine) are also available in Bangladesh, though at higher cost. Mirtazapine, which has sedating and appetite-stimulating properties, may be particularly useful in patients with severe insomnia and weight loss. Tricyclic antidepressants (amitriptyline, imipramine) are inexpensive and effective but have a narrower therapeutic window and more significant side effects, including cardiac toxicity in overdose, which is a critical concern in patients at suicide risk.

Antidepressants should generally be continued for at least six to twelve months after full remission to prevent relapse, and in patients with recurrent depression (two or more previous episodes), longer-term maintenance treatment should be considered.

Step 4: Psychological Treatments

Cognitive-behavioral therapy, interpersonal therapy (IPT), and behavioral activation are all evidence-based psychological treatments for depression with strong research support. In Bangladesh, the availability of trained therapists is extremely limited, but several culturally adapted approaches are being developed and tested.

IPT, which focuses on the relationship between mood and interpersonal problems (particularly grief, role disputes, role transitions, and interpersonal deficits), has shown considerable promise in several low-resource settings and may be particularly well suited to the Bangladeshi context,

where interpersonal and relational factors are major contributors to depression. IPT can be delivered in a simplified form by non-specialist health workers with appropriate training and supervision, and it has been successfully adapted for use in South Asian settings.

Behavioral activation, which is based on the cognitive-behavioral model of depression as maintained by behavioral withdrawal and is delivered through a structured program of activity planning and monitoring, is one of the most evidence-based and scalable psychological interventions for depression. It can be delivered by community health workers with relatively brief training and has shown efficacy in several low-resource settings.

Step 5: Addressing Social Determinants

As repeatedly emphasized in this textbook, the social determinants of depression must be addressed as part of comprehensive treatment. This does not necessarily mean that the clinician must personally address poverty or domestic violence, but it does mean identifying these factors, ensuring safety in cases of domestic violence, facilitating access to social support and social welfare resources, and providing information about relevant services and organizations. Coordination with social workers and community organizations is essential.

Step 6: Management of Treatment-Resistant Depression

Treatment-resistant depression (TRD) is conventionally defined as failure to respond adequately to at least two different antidepressants at adequate dose and duration. In Bangladesh, before concluding that a patient has TRD, it is important to verify adequate adherence, adequate dose, and adequate duration of previous trials. Switching to a different antidepressant, augmenting with lithium, thyroid hormone, or an atypical antipsychotic, and ECT are all evidence-based approaches to TRD that are available in specialist centers in Bangladesh. Ketamine and psilocybin remain unavailable in routine clinical practice, though they represent the frontier of TRD treatment globally.

ECT deserves special attention in the Bangladeshi context. ECT, which involves the induction of a brief generalized seizure under general anesthesia, is the most effective treatment available for severe depression, including psychotic depression and TRD. Despite its controversial reputation, driven partly by its historical use without anesthesia and partly by its negative portrayal in popular culture, modern ECT administered under anesthesia with muscular relaxation is a safe, humane, and highly effective procedure. Its use is fully consistent with ethical treatment of depression in patients who have failed pharmacological approaches or who present with severe suicidal risk requiring rapid response. ECT is available at a limited number of specialist centers in Bangladesh, including NIMH, and its use should not be regarded as a measure of last resort but as an appropriate treatment for specific clinical indications.

13.5 Depression in Bangladesh: Case Studies

Case Study 13.1: Depression in a Married Woman from Sylhet

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Laila is a 32-year-old woman from a rural area of Sylhet. She is married with three children, the youngest of whom is 18 months old. She presented to the outpatient clinic of the upazila health complex after being brought by her mother-in-law, who reported that Laila had been "idle" and "not doing her work" for the past four months. Laila herself reported feeling "very weak and tired," having constant headaches, not being hungry, and not feeling any interest in her children, which distressed her greatly. She was sleeping poorly and waking in the early morning hours. She denied feeling sad when asked directly, but when the physician asked how she felt about her life and whether she felt any happiness or joy, she was silent for a long time and then began to cry, saying she felt "completely empty inside" and that she could not see any purpose in continuing.

On further gentle questioning, it emerged that her husband worked in Saudi Arabia as a migrant worker and came home approximately once a year. She received remittances but had little control over how they were used, as her mother-in-law managed the household finances. She had experienced repeated episodes of verbal abuse from her mother-in-law and had no close social network in the village other than her own family, who lived in a neighboring district. She had been experiencing domestic stress during her husband's visits related to disagreements about her management of the children. She had no previous psychiatric history.

PHQ-9 score: 19 (moderately severe depression). A careful assessment of suicidal ideation revealed passive suicidal ideation ("I sometimes think it would be better if I were not here") without an active plan or intent.

She was diagnosed with major depressive disorder, moderate-severe, in the context of social isolation, stressful family relationships, and the role burden of sole parenting. Fluoxetine 20 mg daily was prescribed, with psychoeducation for Laila and, with her consent, for her mother-in-law. The physician discussed the importance of rest and social engagement, and encouraged Laila to make contact with her own family. A plan was made for follow-up in two weeks.

At follow-up, Laila reported some improvement in sleep but persistent low energy and mood. The fluoxetine dose was increased to 40 mg. A simplified behavioral activation plan was developed with her, focused on three specific daily activities that she identified as potentially pleasurable: bathing her youngest child, visiting a neighbor whom she liked, and attending Friday prayers at the local mosque. At the six-week review, PHQ-9 had fallen to 9, and Laila reported feeling "a little better," eating more regularly, and feeling more engaged with her children.

Key learning points: The somatic presentation of depression in Bangladeshi women; the critical role of social factors; the importance of patient-centered questioning to elicit affective symptoms; the value of PHQ-9 as an assessment and monitoring tool; the place of behavioral activation in primary care settings; and the importance of family psychoeducation.

Case Study 13.2: Severe Depression with Suicidal Behavior in an Adolescent

Milon is a 17-year-old male student from Dhaka who was brought to the emergency department by his parents after being found unconscious having ingested approximately 30 tablets of a benzodiazepine medication belonging to his mother. This was his first self-harm attempt. His

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parents reported that he had been "sad and withdrawn" for approximately three months since failing his HSC (Higher Secondary Certificate) examinations, which he needed to gain admission to the medical college that both he and his parents had set their hopes on.

On medical stabilization after the overdose, psychiatric assessment was conducted. Milon described feeling ashamed and humiliated by his examination failure, believing that he had "ruined everything" for his family and that he had "no future." He had been spending most of the day in his room, not eating properly, sleeping excessively, losing interest in activities he previously enjoyed, and increasingly feeling that "there was no point in trying." He had been ruminating on the overdose for at least two weeks before attempting it, and he expressed shame at having "failed even at that."

Milon's case illustrates the relationship between examination failure and suicidal behavior in Bangladeshi adolescents, a pattern that has been documented in epidemiological research. The cultural context, in which academic performance is deeply tied to family honor and individual worth, creates conditions in which examination failure can feel catastrophic and irreversible.

He was assessed as being at high risk of further self-harm and was admitted to the psychiatric inpatient unit. He was started on fluoxetine and began brief daily sessions of supportive therapy with the unit psychologist, focused on developing a more flexible cognitive framework around achievement and worth, and on activating future-oriented planning. Crucially, family sessions were held in which the parents were helped to understand the severity of Milon's distress and to communicate their unconditional support for him as a person, independent of his academic performance. This was a difficult conversation for parents who had invested enormous hopes in his medical school entry, and it required considerable therapeutic skill.

Over three weeks of hospitalization, Milon's suicidal ideation diminished substantially, and he began to engage more actively in discussions about future options. He was discharged on fluoxetine with a robust safety plan, outpatient follow-up, and a referral to a vocational counselor to help him explore alternative academic pathways.

Key learning points: Examination stress and its mental health consequences in Bangladesh; the relationship between cultural achievement norms and depression severity; the assessment and management of suicide risk in adolescents; the importance of family sessions in adolescent psychiatric care; and the value of safety planning.

13.6 Bipolar Disorder: The Spectrum of Mood Elevation and Its Clinical Implications

Bipolar disorder is a chronic mood disorder characterized by the occurrence of one or more manic or hypomanic episodes, typically (though not invariably) alternating with depressive episodes. It is a disorder of enormous clinical significance: it causes profound suffering, is associated with high rates of suicide (approximately 15 to 20 times the general population rate), and has substantial social and economic consequences. Its management requires long-term engagement, sophisticated pharmacotherapy, and comprehensive psychosocial support.

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The concept of a "bipolar spectrum" has gained traction in recent years, recognizing that the boundary between classic bipolar disorder (with full manic episodes) and recurrent depressive disorder (without mania) is not sharp, and that hypomanic features exist along a continuum from normal mood variability to full-blown hypomania. The ICD-11 and DSM-5 distinguish: Bipolar I Disorder (at least one manic episode, which may or may not be accompanied by depressive episodes); Bipolar II Disorder (at least one hypomanic episode and at least one major depressive episode, with no full manic episodes); Cyclothymic Disorder (numerous periods of hypomanic symptoms and periods of depressive symptoms, for at least two years, without meeting full criteria for hypomania or MDD); and Bipolar Disorder Unspecified.

Manic Episode: Clinical Features

A manic episode is characterized by a distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased goal-directed activity or energy, lasting at least one week. During this period, at least three additional symptoms are present: inflated self-esteem or grandiosity, decreased need for sleep (feeling rested after only three hours of sleep, for example), more talkative than usual or pressure of speech, flight of ideas or subjective experience of racing thoughts, distractibility, increased goal-directed activity (social, work, or sexual) or psychomotor agitation, and excessive involvement in activities with a high potential for painful consequences (spending sprees, sexual indiscretions, foolish business investments).

Severe manic episodes may include psychotic features (grandiose delusions, such as the belief that one has special powers or a divine mission, or persecutory delusions and hallucinations). The manic state can be profoundly disruptive to the individual's life: financial ruin, marital breakdown, legal problems, and physical injury can all result from the impulsive and grandiose behavior of severe mania.

In Bangladesh, the recognition of mania can be complicated by cultural factors. The reduced need for sleep, elevated energy, and expansive religious experiences of mania may be interpreted within a spiritual framework as signs of divine blessing or spiritual elevation, particularly in a Muslim-majority cultural context where intense religious experience has a recognized and valued place. The clinician must carefully assess whether the religious content of the patient's experiences is consistent with normative cultural practice (intense but coherent devotion) or represents a pathological departure from it (loss of usual religious practice, bizarre religious behaviors, grandiose claims of special religious status).

Depressive Episodes in Bipolar Disorder

The depressive episodes of bipolar disorder are clinically similar to unipolar major depressive disorder and are often indistinguishable on phenomenological grounds alone. However, there are some clinical features that suggest a bipolar rather than unipolar depressive episode: atypical features (hypersomnia, increased appetite), psychomotor retardation, early onset, a history of frequent episodes, a family history of bipolar disorder, and a history of antidepressant-induced hypomania or rapid cycling. These features should prompt careful questioning about lifetime hypomanic or manic experiences.

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The distinction between bipolar and unipolar depression is clinically critical because the treatment is different: antidepressants used as monotherapy in bipolar depression can precipitate mania or mixed states, and should either not be used or only used in combination with a mood stabilizer. The misdiagnosis of bipolar depression as unipolar depression and the consequent prescription of antidepressant monotherapy is one of the most common and consequential diagnostic errors in psychiatry, and it is a particular concern in Bangladesh where the careful longitudinal assessment needed to detect a bipolar course may not always be available.

Pharmacological Management of Bipolar Disorder

The pharmacological management of bipolar disorder is complex and requires separate consideration of the different phases: the acute manic episode, the acute depressive episode, and long-term maintenance treatment.

Acute mania is typically managed with a combination of mood stabilizers and antipsychotics. Lithium is the mood stabilizer with the strongest evidence base and the most established long-term efficacy, including for the prevention of both manic and depressive episodes. It also has unique antisuicidal properties (reducing the suicide rate in bipolar disorder by approximately 70 percent) and may have neuroprotective effects. However, lithium has a narrow therapeutic window (effective blood levels are close to toxic levels), requires regular blood level monitoring, and can cause renal impairment and hypothyroidism with long-term use. In Bangladesh, lithium is available at low cost and blood monitoring is feasible at hospitals, though less so in primary care settings.

Valproate (sodium valproate or valproic acid) is an effective mood stabilizer for acute mania and for maintenance treatment, and is widely used in Bangladesh. It is particularly effective for rapid-cycling bipolar disorder (more than four episodes per year) and for mixed states. Its use in women of childbearing age requires careful counseling because of its teratogenic effects (risk of neural tube defects and other malformations in the fetus) and its potential effects on fetal cognitive development.

Lamotrigine is an anticonvulsant with particular efficacy in the depressive phase of bipolar disorder and for the prevention of depressive episodes. It is the most effective pharmacological agent for bipolar depression in the long term, though its slow titration schedule (required because of the risk of Stevens-Johnson syndrome, a serious skin rash) limits its use in acute management.

Second-generation antipsychotics, particularly quetiapine, aripiprazole, and olanzapine, have substantial evidence for efficacy in acute mania, bipolar depression (quetiapine and lurasidone are particularly well-studied), and long-term maintenance. Their metabolic side effects must be carefully managed.

An exciting development highlighted in the 2026 pipeline review in Psychiatric Times is Alzamend Neuro's phase 2 clinical study of AL001, a novel lithium-delivery system designed to provide the benefits of lithium while mitigating or avoiding currently experienced toxicities

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through a crossover design with advanced neuroimaging as a measure. If this approach proves successful, it could substantially improve the tolerability and hence the use of lithium in bipolar disorder management worldwide, including in Bangladesh.

Psychosocial Management of Bipolar Disorder

Psychosocial interventions are an essential complement to pharmacological treatment in bipolar disorder. The evidence-based approaches include: psychoeducation (which helps patients and families understand the disorder, recognize early warning signs of episodes, and develop strategies for self-management); cognitive-behavioral therapy (which helps with depression and with managing the cognitive and behavioral consequences of mood instability); interpersonal and social rhythm therapy (IPSRT), which focuses on stabilizing daily rhythms of sleep, activity, and social interaction, which are known to influence mood stability; and family-focused therapy (which addresses family communication patterns and family understanding of bipolar disorder).

In Bangladesh, structured psychosocial programs for bipolar disorder are not routinely available, but the principles can be incorporated into clinical practice. Psychoeducation can be delivered in brief clinical contacts; the development of a written personal "relapse prevention plan" that identifies early warning signs and agreed actions can be done in a single extended clinical session; and family involvement in treatment can be promoted as part of routine care.

13.7 Bipolar Disorder in Bangladesh: Clinical Illustration

Case Study 13.3: Manic Episode in a University Student

Sayem is a 21-year-old male student at a university in Dhaka. He was brought to the psychiatry emergency by his older brother, who described a two-week period of dramatic behavioral change. Sayem had stopped sleeping (saying he needed only two to three hours per night and felt more energetic than ever), had been talking constantly and rapidly about "a great business idea that would make him a billionaire," had been spending recklessly (he had emptied his savings account buying gadgets and gifts for friends and acquaintances), had been sending hundreds of messages to classmates and strangers on social media about his plan, and had been behaving in a socially disinhibited way (making sexually inappropriate comments to female classmates, which had led to a formal complaint). Two days before presentation, he had gone to the local mosque at 2 am, announced to the imam that he had been appointed by God to lead a new Islamic revival, and had to be removed by security staff.

On assessment, Sayem was found to be grandiose, pressured in speech, hyperactive, and distractible. He had no insight: he believed he was "at the peak of my abilities" and was annoyed at his brother for bringing him to the hospital. His mood was elevated and irritable. There were grandiose quasi-religious delusions. He had no previous psychiatric history, though his brother mentioned that their father had had periods of unusual behavior and depression that had never been formally assessed.

He was admitted, and haloperidol (for acute symptom control) and lithium (started at low dose with plan for titration to therapeutic levels) were initiated. Over the first week of admission, his

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sleep improved dramatically (from the medications), his speech slowed, and the pressure of ideas diminished. By the end of two weeks, the grandiose delusions had subsided and he was beginning to show some insight into his episode, which he found deeply embarrassing.

The episode was discussed with him and his brother using psychoeducation about bipolar disorder. The brother's historical account of the father's mood episodes raised the possibility of a family history of bipolar disorder. Sayem was counseled about the importance of long-term lithium treatment, the risks of antidepressants without mood stabilizer cover, the importance of protecting sleep, and the need to monitor for early warning signs of future episodes. He was discharged after three weeks with lithium, follow-up at the psychiatry outpatient clinic, and a referral for individual psychoeducation sessions.

Key learning points: The clinical features of a full manic episode with psychotic features; the differential diagnosis from drug-induced psychosis (thorough history and urine toxicology in this age group); the importance of lithium as first-line mood stabilizer; the family history of bipolar disorder and its implications; the psychoeducational tasks of the acute admission; and the management of the grandiose religious content in a cultural context where religious experience is valued.

CHAPTER FOURTEEN: SUICIDE, SELF-HARM, AND SUICIDAL BEHAVIOR IN BANGLADESH - A PUBLIC HEALTH AND CLINICAL EMERGENCY

14.1 The Magnitude of the Problem

Suicide is among the most preventable causes of premature death, and it represents one of the most urgent public mental health challenges in Bangladesh. Globally, approximately 700,000 people die by suicide each year, and for every death there are many more non-fatal suicide attempts and episodes of self-harm. In low- and middle-income countries, which account for approximately 80 percent of global suicide deaths, the burden is disproportionate.

In Bangladesh, the epidemiology of suicide is imperfectly understood because of poor registration of deaths and because suicide remains illegal under Section 309 of the Penal Code (a provision inherited from British colonial law that has not yet been repealed despite repeated advocacy for its removal). This criminalization leads to underreporting, as families and healthcare providers may avoid registering a death as suicide to protect survivors from legal risk and from social stigma. However, the available data paint a striking picture.

A 2019 WHO report estimated the suicide rate in Bangladesh at approximately 7 to 9 per 100,000 population, suggesting approximately 12,000 to 15,000 deaths by suicide per year. However, community-based studies in specific areas of Bangladesh have found rates substantially higher than this, particularly among specific subgroups. Studies from rural Bangladesh have found unusually high rates of suicide and parasuicide among young women, with estimated rates in some communities approaching 50 per 100,000 or higher among women

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aged 15 to 30. These rates are among the highest documented anywhere in the world for women in this age group.

The most common method of suicide in Bangladesh, particularly in rural areas, is ingestion of organophosphate pesticides (including various agricultural pesticides that are widely available in rural households). Organophosphate ingestion has an extremely high case fatality rate (approximately 20 to 30 percent without adequate medical treatment, which requires atropine and pralidoxime in adequate quantities that are often not available in rural health facilities). Other common methods include hanging and drowning.

14.2 Risk Factors for Suicide in Bangladesh

The risk factors for suicide in Bangladesh are a mixture of those found globally and those specific to the Bangladeshi social context.

***Mental illness**: Across all settings, mental illness is the most important individual risk factor for suicide. Major depressive disorder, bipolar disorder, schizophrenia, substance use disorders, and personality disorders (particularly borderline personality disorder) all significantly increase the risk of suicide. However, in Bangladesh, a substantial proportion of suicides occur in the context of acute psychosocial crises rather than established mental illness, particularly among young women. This suggests that in Bangladesh, the social determinants of suicidal behavior may be relatively more important than individual psychopathology, compared to high-income country settings.*

***Interpersonal and social factors**: Domestic violence, marital conflict, dowry harassment, sexual abuse, family shame, social isolation, bereavement, and broken relationships are major precipitants of suicidal behavior in Bangladesh. Many young women who die by suicide do so in the context of acute interpersonal crises, often involving domestic violence or husband-wife conflict, in which suicide is experienced as the only available escape from an intolerable situation.*

***Economic factors**: Financial stress, indebtedness, and loss of livelihood are significant risk factors for suicide in Bangladesh, particularly among men. Farmer suicides related to crop failure and agricultural debt, while perhaps less extensively documented in Bangladesh than in some neighboring countries, represent a concern in the rural agricultural context.*

***Age and gender**: In Bangladesh, unlike in most high-income countries (where men have higher suicide rates than women), the gender difference in suicide rates is less pronounced or even reversed, with young women having particularly high rates. This reflects the specific social vulnerabilities of young women in rural Bangladesh described above.*

***Previous suicide attempts**: A previous suicide attempt is among the strongest predictors of future suicide, and anyone who has made an attempt should be regarded as at high risk and given priority access to mental health care. In Bangladesh, there is often inadequate follow-up of people who have been treated for suicide attempts in emergency departments, representing a critical gap in the suicide prevention system.*

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***Access to means**: The availability of highly lethal means, specifically organophosphate pesticides, is a major determinant of suicide rates in rural Bangladesh. Means restriction, specifically policies to reduce access to the most lethal means, is one of the most evidence-based and effective suicide prevention interventions globally. In Bangladesh, policies to regulate the availability and storage of pesticides, to introduce safer formulations, and to lock up existing stocks in secure community-level facilities have been piloted with some success and deserve broader implementation.*

14.3 Suicide Prevention Strategies: Evidence and Bangladesh Relevance

Suicide prevention is a public health imperative that requires action at multiple levels, from individual clinical care to population-level policies. The WHO LIVE LIFE implementation guide (2021) identifies four evidence-based interventions: means restriction; media reporting guidelines; psychosocial support (including early identification and management of mental disorders and crisis intervention); and follow-up care for people who have attempted suicide.

***Means restriction**: As noted above, regulating access to organophosphate pesticides is probably the highest-impact single intervention for suicide prevention in rural Bangladesh. Experience from Sri Lanka, where dramatic reductions in suicide rates followed restrictions on the most toxic pesticide formulations, provides a compelling precedent. The Safe Pesticide Project model, which involves community-based locking of pesticides in secure storage facilities to create a time delay between suicidal impulse and means access, has been tested in rural Bangladesh with promising results.*

***Crisis services**: The development of crisis telephone helplines and community crisis response services represents an important element of suicide prevention infrastructure. The Kaan Pete Roi helpline in Bangladesh provides an emotional support telephone line, and its expansion and promotion could contribute to suicide prevention.*

***Mental health care**: Improving access to mental health care for people with depression and other mental disorders that increase suicide risk is a critical component of suicide prevention. This reinforces the arguments made throughout this textbook for the integration of mental health into primary care.*

***Post-attempt follow-up**: People who survive suicide attempts are at very high risk of further attempts and must be actively followed up after emergency medical treatment. In Bangladesh, the development of protocols for post-attempt follow-up, including brief psychological intervention, safety planning, and follow-up contact, is an important clinical and public health priority.*

14.4 Clinical Assessment of Suicide Risk

The clinical assessment of suicide risk is one of the most important and most demanding tasks in psychiatric practice. It must be conducted whenever there are any indications of suicidal ideation, following any suicide attempt or self-harm episode, and as part of the routine assessment of any patient with a significant mood disorder.

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The assessment of suicide risk involves evaluating: the presence and nature of suicidal ideation (passive ideation: "I wish I were dead"; active ideation: "I am thinking of killing myself"; ideation with plan: "I plan to ingest pesticides when the family is asleep; ideation with intent: "I intend to act on this plan"); the precipitating factors and current crisis context; the presence of hopelessness (which is a stronger predictor of suicidal behavior than depression severity alone); access to lethal means; protective factors (including reasons for living, social support, religious beliefs about suicide, responsibility for children, and engagement with treatment); a history of previous attempts and their lethality and context; and the presence of comorbid conditions (psychosis, substance use, or borderline personality disorder significantly elevate risk).

No risk assessment tool, however sophisticated, can reliably predict whether a specific individual will attempt suicide; the base rate of suicide is low even in high-risk populations, and false-negative rates are inevitably high. The role of risk assessment is not to predict the future with certainty but to inform clinical decision-making about the intensity of monitoring and intervention required and to ensure that appropriate safety measures are in place.

Risk communication with the patient and family is an integral part of the assessment process. In Bangladesh, the decision to involve family members in risk assessment must be made carefully, with attention to the patient's confidentiality and to the family dynamics that may be relevant to the risk (for example, if domestic violence is a precipitant of suicidal ideation, disclosure to the abusive partner could increase rather than reduce risk).

14.5 Non-Suicidal Self-Injury: A Distinct but Related Phenomenon

Non-suicidal self-injury (NSSI), also called deliberate self-harm without suicidal intent, refers to the direct, deliberate destruction of one's own body tissue without suicidal intent. Common forms include cutting (the most common), burning, hitting, and scratching. NSSI typically functions as a form of emotional regulation: the physical pain of self-injury provides temporary relief from overwhelming emotional distress, a "release valve" for unbearable feelings. It is associated with borderline personality disorder, depression, dissociative disorders, and a history of childhood trauma.

In Bangladesh, NSSI is recognized clinically but its epidemiology is poorly understood. Qualitative research suggests that NSSI occurs among adolescents and young adults in Bangladesh, often in the context of emotional dysregulation, family conflict, and histories of abuse. Its relationship to suicidal behavior requires careful clinical assessment: while NSSI and suicide are distinct phenomena (NSSI without suicidal intent is not a suicide attempt), a history of NSSI does significantly increase the risk of future suicidal behavior, and the assessment of intent is critically important.

CHAPTER FIFTEEN: THE INTERFACE OF PHYSICAL AND MENTAL HEALTH IN BANGLADESH

15.1 The Bidirectional Relationship

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The relationship between physical and mental health is bidirectional and profound. Physical illness increases the risk of mental illness: people with chronic physical conditions including diabetes, cardiovascular disease, cancer, HIV/AIDS, and chronic pain have substantially higher rates of depression and anxiety than the general population. Conversely, mental illness increases the risk of physical illness through multiple pathways: behavioral (people with depression are less likely to maintain healthy behaviors, adhere to medication, or attend health appointments); neurobiological (depression and anxiety activate inflammatory and endocrine pathways that directly contribute to the pathophysiology of cardiovascular disease, diabetes, and immune dysfunction); and social (people with severe mental illness face barriers to accessing physical health care, are more likely to smoke and engage in unhealthy behaviors, and experience the adverse effects of psychiatric medications on metabolic health).

This bidirectional relationship has enormous practical implications for clinical practice in Bangladesh. In a country where the burden of chronic disease is rapidly rising, and where mental health and physical health services operate in largely separate silos, addressing the interface between them is a major clinical and policy priority.

15.2 Diabetes and Depression: A Vicious Cycle in Bangladesh

The comorbidity of diabetes and depression is particularly important in Bangladesh, where the prevalence of type 2 diabetes is among the highest in South Asia (estimated at 10 to 12 percent of adults, with rapidly rising rates driven by urbanization, dietary change, and physical inactivity) and where depression is highly prevalent. Studies globally have found that people with diabetes have approximately twice the rate of depression compared to those without diabetes, and that depression in people with diabetes is associated with worse glycemic control, higher rates of diabetic complications, greater health care utilization, and higher mortality.

The mechanisms linking diabetes and depression are multiple: the biological stress of chronic illness and its complications; the psychological burden of a demanding self-management regimen; the neurobiological effects of hyperglycemia on brain function and mood regulation; and the social and economic consequences of living with a chronic disease in a resource-limited context. The inflammatory mechanisms described in the depression neurobiology section above may also play a direct pathophysiological role.

Effective treatment of depression in people with diabetes improves not only mood outcomes but also glycemic control, adherence to diabetes management, and functional outcomes. This makes the recognition and treatment of depression in diabetes care settings one of the highest-yield clinical interventions in Bangladeshi medicine, and a strong argument for the integration of mental health screening into diabetes clinics and chronic disease management programs.

15.3 Cardiovascular Disease and Mental Health

Depression is an independent risk factor for the development of cardiovascular disease (CVD), approximately doubling the risk, and is also a powerful predictor of mortality following acute myocardial infarction. The mechanisms include autonomic dysfunction (depression is associated with reduced heart rate variability and increased sympathetic tone, which increase cardiac risk),

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platelet activation (depression enhances platelet aggregation through serotonergic mechanisms, increasing thrombus formation), inflammatory effects (depression-associated inflammation contributes to atherosclerosis), and behavioral pathways (depression reduces physical activity, worsens diet, and reduces medication adherence).

In Bangladesh, where CVD is a leading cause of morbidity and mortality and where rates of depression are high, the cardiac-mental health interface represents an important clinical frontier. Cardiac rehabilitation programs in Bangladesh do not currently include structured mental health components, and this is a gap that needs to be addressed.

15.4 Maternal Mental Health: A Neglected Priority

Maternal mental health, which encompasses the mental health of women during pregnancy and in the postpartum period, deserves particular attention in Bangladesh. As noted in the discussion of postpartum depression, approximately 20 to 25 percent of women in Bangladesh experience clinically significant depression during or after pregnancy. Perinatal mental illness, if untreated, has adverse consequences not only for the mother but for the infant: maternal depression in the first year of life is associated with impaired mother-infant attachment, reduced stimulation, suboptimal breastfeeding, and developmental delays in the child.

Perinatal mental health is also important as an entry point for mental health services more broadly. Pregnant and postpartum women are in regular contact with health workers as part of antenatal and postnatal care, creating opportunities for systematic screening and early intervention. The Edinburgh Postnatal Depression Scale (EPDS) has been validated in Bengali and is a practical screening tool for use in antenatal and postnatal clinics. The integration of EPDS screening and brief psychological intervention into the existing maternal and child health platform represents one of the most feasible and high-impact approaches to expanding mental health coverage in Bangladesh.

15.5 HIV/AIDS and Mental Health

The prevalence of HIV/AIDS in Bangladesh is low by global standards (estimated at less than 0.1 percent of the general adult population), but certain populations have very high prevalence: injecting drug users, men who have sex with men, sex workers, and their partners. These populations also have extremely high rates of mental illness, driven by the overlapping burdens of stigma, discrimination, social exclusion, violence exposure, and the psychological consequences of living with a life-threatening illness. The integration of mental health services into HIV care is globally recognized as a best practice, and it is equally important in Bangladesh, where the psychological needs of people living with HIV are substantially unmet.

CHAPTER SIXTEEN: CONTEMPORARY CONTROVERSIES IN DEPRESSION AND SCHIZOPHRENIA RESEARCH - A CRITICAL APPRAISAL

16.1 Is Schizophrenia One Disease or Many?

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One of the most fundamental and persistent controversies in schizophrenia research concerns whether it is a single disease with a common etiology and pathophysiology, or whether the diagnostic category encompasses a heterogeneous group of conditions that share surface features but have different underlying mechanisms. The evidence increasingly favors the latter view: the genetic architecture of schizophrenia involves hundreds of different variants with small individual effects, suggesting etiological heterogeneity; the clinical presentation varies enormously between individuals; the course is variable (some people recover fully while others have a chronic deteriorating course); and treatment response is highly variable. As the 2025 Cureus review noted, "no explanatory model has been developed to account for schizophrenia's divergent clinical expressions."

This heterogeneity has important practical implications. It suggests that the search for a "cure" for schizophrenia may need to be replaced by a search for treatments that are effective for specific subtypes, defined by clinical, neurobiological, or genetic characteristics. This is precisely the vision of precision psychiatry, and it aligns with the emerging strategy described in the IHI research call of April 2025 to identify transdiagnostic biological concepts that cut across current diagnostic boundaries.

The question also has important diagnostic implications. If schizophrenia is not a single disease, then the current diagnostic category may be doing more harm than good by grouping together conditions that need different treatments, creating false expectations about prognosis based on the average rather than the individual, and stigmatizing individuals with a label that carries enormous social consequences. These concerns support the argument for dimensional rather than categorical diagnosis, and for the kind of symptom-level and biology-informed diagnostic approach envisioned by RDoC and the Precision Psychiatry Roadmap.

16.2 The Antidepressant Effectiveness Debate: What Does the Evidence Actually Say?

The controversy about the effectiveness of antidepressants that erupted following the Moncrieff serotonin paper in 2022 has continued to generate both scientific and public debate. Several important points need to be made clearly.

First, there is robust evidence from multiple systematic reviews and meta-analyses that antidepressants are more effective than placebo in the treatment of moderate to severe depression, with an effect size (standardized mean difference) of approximately 0.3 to 0.5 compared to placebo. This is a real and clinically meaningful effect, though it is smaller than pharmaceutical promotion has sometimes suggested, particularly for mild depression.

Second, there is significant heterogeneity in antidepressant response: some patients respond dramatically and rapidly to antidepressants, while others show minimal or no response. The identification of clinical and biological predictors of antidepressant response (which is the goal of precision psychiatry in the depression domain) is an active research priority.

Third, the concern about the "antidepressant discontinuation syndrome" (which is sometimes misidentified as "addiction" but is more precisely a physiological discontinuation syndrome without the compulsive craving characteristic of addiction) is real and important. Many patients

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experience significant symptoms when stopping antidepressants abruptly, and the prevalence and severity of these symptoms has historically been underestimated. Clinicians should inform patients about discontinuation symptoms and plan gradual tapering when antidepressants are to be stopped.

Fourth, the long-term effects of antidepressants, beyond the treatment of acute episodes, are less well established than their short-term effects. Questions about whether long-term antidepressant use maintains remission or merely postpones relapse by suppressing symptoms, and about the cumulative effects of long-term antidepressant use on brain structure and function, have not been fully resolved and deserve continued research attention.

16.3 The Question of Overdiagnosis in Mood Disorders

Related to the antidepressant controversy is the broader question of whether major depression and bipolar disorder are overdiagnosed. Critics like Allan Horwitz and Jerome Wakefield, in their influential 2007 book "The Loss of Sadness," argued that the DSM approach to diagnosing depression, by specifying a symptom threshold and minimum duration but making no distinction between symptoms arising from normal responses to adversity and those arising from genuine pathological processes, leads to the medicalization of normal grief and human suffering.

This argument has particular relevance in Bangladesh, where many of the experiences that might meet criteria for major depression arise in the context of genuinely terrible social circumstances (poverty, violence, natural disaster, displacement) that are real and not going away. Diagnosing depression in a woman who is experiencing repeated intimate partner violence and recommending antidepressant treatment, without addressing the violence itself, is arguably a medicalization of a rational response to an intolerable situation. This does not mean that depression should never be treated in such women, since the depression is real and causes real suffering, but it does mean that treatment must address the social conditions as well as the individual symptoms.

At the same time, there is a real danger of the opposite error: dismissing the psychological suffering of people in difficult circumstances as "understandable" and therefore not requiring treatment. Depression is not merely sadness; it involves neurobiological changes that can perpetuate and amplify suffering independently of the circumstances that initiated it, and it responds to treatment even when those circumstances cannot be changed. The clinical judgment required is to assess both the psychological reality of the depression and its social context, and to develop a treatment plan that addresses both.

16.4 The Emerging Role of Artificial Intelligence in Psychiatric Diagnosis and Treatment

Artificial intelligence (AI) and machine learning are beginning to influence psychiatric diagnosis and treatment in ways that are likely to accelerate significantly over the coming years. Several domains of psychiatric AI deserve discussion.

***AI-Assisted Diagnosis**: Machine learning algorithms trained on large datasets of clinical and neuroimaging data have shown promise in distinguishing between diagnostic categories (such as*

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schizophrenia and bipolar disorder), in predicting which patients are at high risk of psychosis or of suicide, and in detecting early warning signs of mood episodes from digital behavioral data (digital phenotyping). As noted in a 2026 editorial in Frontiers in Psychiatry, "we are transitioning toward a more stratified and dimensional understanding of mental health conditions, based on continuous spectra, following the precision medicine framework." AI tools can contribute to this transition by identifying patterns in complex multi-modal data that human clinicians cannot easily detect.

However, there are important caveats. AI algorithms trained on data from one cultural and clinical context (typically a high-income Western one) may not perform well when applied to different populations. Bangladeshi patients may express distress in ways, both clinically and digitally, that differ systematically from the populations on which algorithms are trained, leading to false-negative or false-positive diagnoses. The development of AI tools that are trained on and validated for use with Bangladeshi populations is an important research priority.

***AI in Treatment Decision-Making**: As described by McCutcheon and colleagues in their 2025 report, AI-assisted integrated care models that merge clinical data, digital biomarkers, and self-report outcomes to optimize treatment sequencing and predict relapse represent an important direction for future clinical practice. Emerging guidelines from APA (2024) and CINP (2023) acknowledge that AI tools can enhance clinical decision support while stressing the ethical need for transparency, interpretability, and patient autonomy.*

***Digital Therapeutics**: The approval of CT-155 as a digital therapeutic for negative symptoms of schizophrenia (demonstrating statistically significant reductions in CAINS-MAP scores in the CONVOKE phase 3 study of 2025) illustrates the growing role of evidence-based software applications in psychiatric treatment. Digital therapeutics platforms are potentially highly scalable and low-cost once developed, which makes them particularly relevant for low-resource settings like Bangladesh, provided they can be adapted to local languages, cultural contexts, and digital infrastructure realities.*

CHAPTER SEVENTEEN: CLINICAL PROTOCOLS AND SERVICE PATHWAYS FOR PSYCHOTIC AND MOOD DISORDERS IN BANGLADESH

17.1 The mhGAP Approach: A Practical Framework for Primary Care

The WHO's Mental Health Gap Action Programme Intervention Guide (mhGAP-IG), now in its third edition (2023), provides evidence-based clinical protocols for the assessment and management of mental disorders in non-specialist settings. It is organized around priority conditions including psychosis, depression, bipolar disorder, epilepsy, child and adolescent mental health, dementia, substance use disorders, self-harm/suicide risk, and other significant mental health conditions.

The mhGAP framework uses a stepped-care approach: persons with possible mental disorders are identified through brief screening questions or clinical observation, assessed using

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structured clinical guides, and managed according to their diagnosis and severity. Persons with mild-moderate conditions are managed at the primary care level with pharmacological and brief psychological interventions; those with severe conditions or those who do not respond to primary care management are referred to a higher level of care.

The mhGAP framework is being piloted in several primary care settings in Bangladesh, with training programs for primary care physicians and other health workers. The key elements of successful mhGAP implementation include: training (initial and ongoing), supervision (regular supervision by a mental health specialist to support and quality-assure the work of non-specialist health workers), referral pathways (clear and functional links between primary and specialist care), medication supply (ensuring that essential psychiatric medications are available at the primary care level), and monitoring and evaluation (systematic collection of data on the number of people identified and managed and their outcomes).

17.2 The Essential Medicines List for Mental Health in Bangladesh

The WHO Essential Medicines List for Mental Health includes medications for psychosis (haloperidol, chlorpromazine, fluphenazine decanoate, and clozapine); mood disorders (amitriptyline, fluoxetine, carbamazepine, lithium carbonate, and valproic acid); epilepsy (carbamazepine, phenobarbital, phenytoin, and valproic acid); and other conditions. Bangladesh's own Essential Medicines List includes most of these agents, and their availability at district and upazila level facilities is improving but remains incomplete.

A critical supply chain issue in Bangladesh is the availability of lithium for bipolar disorder management. Despite being an essential medicine, lithium is not consistently available at all levels of the health system, and the monitoring requirements (regular blood levels and kidney and thyroid function tests) create additional practical barriers in resource-limited settings. The development of systems to ensure consistent lithium supply and the infrastructure for safe monitoring represents an important service development priority.

17.3 Developing Clinical Pathways for First-Episode Psychosis in Bangladesh

The development of clear, accessible, and effective clinical pathways for first-episode psychosis (FEP) in Bangladesh would represent an important advance in psychiatric care. Drawing on the international evidence on early psychosis intervention, such a pathway would include:

Community awareness: Promoting awareness of the early signs of psychosis in communities, schools, and primary care settings, to reduce the duration of untreated psychosis.

Primary care recognition: Training primary care physicians and community health workers to recognize psychotic symptoms and to facilitate rapid access to specialist assessment.

Rapid specialist assessment: Ensuring that people with possible psychosis can access specialist psychiatric assessment within a defined timeframe (ideally within two weeks of referral).

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Comprehensive assessment and formulation: Conducting a thorough assessment including medical evaluation, mental state examination, personal history, and social circumstances.

Integrated treatment: Providing a combination of antipsychotic medication (starting with a low dose of an SGA where possible), family psychoeducation, social support planning, and psychological support.

Active follow-up: Maintaining regular contact with the person and their family in the critical period following the first episode, to monitor response, address side effects, and prevent relapse.

Long-term recovery support: Connecting the person with vocational, educational, and social support services to promote long-term functional recovery.

In Bangladesh, the implementation of such a pathway requires substantial investment in training, coordination between levels of care, and the development of community-based support structures. The vision is ambitious but achievable, and several pilot programs in other low- and middle-income countries provide models that could be adapted for the Bangladeshi context.

CHAPTER EIGHTEEN: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART THREE

18.1 Key Themes from Part Two

Part Two has provided a comprehensive account of the psychotic disorders and mood disorders, integrating clinical description, neurobiology, epidemiology, treatment evidence, and Bangladesh-specific context. Several key themes have emerged that will continue to resonate throughout this textbook.

The heterogeneity of psychiatric disorders is one of the most important themes. Both schizophrenia and depression encompass vast clinical heterogeneity, and the emerging precision psychiatry approach promises to disaggregate these heterogeneous categories into more biologically coherent subtypes that may be more tractable to targeted intervention. The clinical implication is that the psychiatrist must resist the temptation to treat the diagnosis rather than the person, and must maintain individualized assessment and treatment planning.

The intersection of the biological and the social is equally central. The neurobiology of schizophrenia and depression is real and important, but it cannot be understood in isolation from the social contexts in which these conditions arise and unfold. In Bangladesh, the social determinants of psychosis (urban migration, social defeat, prenatal stress related to poverty and conflict) and of depression (domestic violence, poverty, gender inequality, disaster exposure) are major contributors to the burden of these conditions, and addressing them is as important as developing better medications.

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The extraordinary pace of pharmacological innovation, illustrated by the approval of Cobenfy for schizophrenia and the development of ketamine, psilocybin, and zuranolone for depression, represents both an exciting opportunity and a challenge for equitable access. As a 2025 Nature Reviews Drug Discovery paper noted, the cholinergic revolution in schizophrenia treatment that Cobenfy inaugurates represents a genuine departure from seven decades of dopamine-focused pharmacology. The challenge for Bangladesh is to develop health system pathways that can eventually make effective innovations accessible to its population, while managing costs and ensuring rational prescribing.

The crucial importance of early intervention, whether in the prodrome of schizophrenia or in the initial presentation of a depressive episode, is a theme that runs through the clinical evidence and has profound implications for service design. The duration of untreated psychosis and the duration of untreated depression are both predictors of worse outcomes, and reducing them requires community awareness, primary care capacity, and rapid access to specialist services.

Finally, the dignity and agency of people with mental illness must remain at the center of everything. The case studies in this part have illustrated both the suffering that mental illness causes and the extraordinary resilience of people who live with these conditions. The goal of psychiatric practice is not merely to suppress symptoms but to support the person's recovery of a meaningful, self-directed life.

18.2 Preview of Part Three

Part Three of this textbook will address the anxiety and fear-related disorders, obsessive-compulsive and related disorders, and trauma and stress-related disorders, including the particular relevance of these conditions to the Bangladeshi context of recurrent natural disasters, the legacy of the Liberation War, and the Rohingya refugee crisis. It will examine the neurobiological underpinnings of fear and anxiety, the evidence base for psychological and pharmacological treatments, and the specific challenges of recognizing and managing these conditions in primary care settings in Bangladesh.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART TWO

***Vignette 1**: Hamida is a 45-year-old woman who presents to a primary health center with a three-month history of fatigue, body pain, and disturbed sleep. She cries during the consultation and says she has felt "completely broken" since her husband divorced her eight months ago. She has three children who are living with her ex-husband's family. Her PHQ-9 score is 17. Discuss the diagnosis, the biological and social dimensions of her presentation, and a comprehensive treatment plan.*

***Vignette 2**: Rafiqul is a 19-year-old man who has been increasingly isolated over the past six months. His parents report that he has stopped going to college, spends all day in his room, is talking to himself, and recently accused his mother of trying to poison his food. He had been an*

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above-average student and a sociable young man before this change. Discuss the differential diagnosis, the key priorities for assessment, and the initial management.

***Vignette 3**: Sumaiya is a 28-year-old woman with a two-year history of bipolar disorder type 1 who is currently on lithium 800 mg daily. She is seven weeks pregnant and asks whether she should continue lithium. Discuss the evidence regarding lithium use in pregnancy, the risks of discontinuation, the alternatives, and the key principles of managing bipolar disorder in pregnancy.*

***Vignette 4**: A 16-year-old boy is brought to the emergency department after ingesting 15 paracetamol tablets following a fight with his parents about his school performance. He says he "didn't really want to die, just wanted everything to stop." Discuss the assessment of suicide risk in this case, the management priorities, and the ethical considerations regarding confidentiality and parental involvement.*

STUDY QUESTIONS FOR PART TWO

1. *Describe the three-dimensional model of schizophrenia psychopathology. Why is it clinically and therapeutically important to distinguish between positive, negative, and cognitive symptoms?*
2. *Trace the evolution of the dopamine hypothesis of schizophrenia from its origins in the 1960s to the current "aberrant salience" model. How does the approval of Cobenfy (xanomeline-trospium) in 2024 challenge or extend this framework?*
3. *What is the Duration of Untreated Psychosis (DUP) and why does it matter? What are the barriers to reducing DUP in Bangladesh, and what interventions could address them?*
4. *A patient with schizophrenia in rural Bangladesh is refusing antipsychotic medication, explaining that his symptoms are the result of a jinn possession and that he is managing this with the help of a fakir. How would you approach this situation clinically and ethically?*
5. *Explain the neurotrophic hypothesis of depression and discuss how it connects the biological evidence (BDNF, hippocampal atrophy, neuroplasticity) with the clinical evidence for the efficacy of antidepressants and psychotherapy.*
6. *What is the significance of the rapid antidepressant effects of ketamine for our understanding of the neurobiology of depression? What are the current evidence-based indications for ketamine and esketamine, and what are the barriers to their use in Bangladesh?*
7. *Describe the clinical features that should alert the clinician to the possibility of a bipolar rather than unipolar depressive episode. Why is this distinction clinically critical?*
8. *What is the epidemiology of suicide in Bangladesh, and how does it differ from global patterns? What are the most evidence-based interventions for suicide prevention, and which are most relevant to the Bangladeshi context?*
9. *How do you approach the assessment and management of postpartum depression in a primary care setting in rural Bangladesh? What cultural factors need to be considered?*

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10. *Critically evaluate the arguments for and against the widespread use of antidepressants for major depression. What would an ideal evidence-based prescribing approach look like in the Bangladeshi primary care context?*

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End of Part Two

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PART THREE: ANXIETY AND FEAR-RELATED DISORDERS, OBSESSIVE-COMPULSIVE AND RELATED DISORDERS, AND TRAUMA AND STRESS-RELATED DISORDERS

Clinical Science, Neurobiology, Cultural Context, and Practice in Bangladesh

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CHAPTER NINETEEN: THE LANDSCAPE OF ANXIETY: DEFINITIONS, CONCEPTS, AND THE BURDEN OF FEAR IN HUMAN EXPERIENCE

19.1 Fear, Anxiety, and the Human Condition

There is a story told about a young woman named Ruma, a twenty-two-year-old garment worker from Narayanganj who arrived at the medical outpatient department of a district hospital complaining of chest tightness, palpitations, difficulty breathing, and the terrifying conviction that she was about to die. She had experienced five such episodes in the previous three weeks, always occurring without warning, always reaching a crescendo of terror within minutes, and always subsiding within half an hour, leaving her exhausted, shaken, and deeply frightened about when the next attack would come. She had visited two village doctors and one general practitioner, all of whom had performed ECGs, measured her blood pressure, and found nothing wrong. One told her it was "gas." Another prescribed a proton pump inhibitor and a vitamin supplement. No one had asked her what was happening in her life, what her working conditions were like, whether she slept well, or what she was afraid of.

What was happening in Ruma's life was this: she was one of four thousand workers in a factory that had recently undergone restructuring, and dozens of her colleagues had been laid off without notice. She was the primary income earner for a household that included her widowed mother and two younger siblings. She was three months behind on rent for the family's single room. Her foreman had made unwanted physical advances toward her on two occasions. She had told nobody any of this, because telling would mean losing her job, and losing her job would mean catastrophe.

Ruma had panic disorder. She almost certainly also had generalized anxiety disorder, given the chronic background dread that had been her constant companion for months before the first panic attack erupted. She may additionally have been developing a specific phobia of her workplace, given her increasing reluctance to enter the factory floor. She would not receive any of these diagnoses for another six months, by which time she had quit her job, withdrawn almost entirely from social life, and developed frank symptoms of depression.

Ruma's story is not unusual. It is, in various versions, a story repeated daily across Bangladesh, across South Asia, and across the world. Anxiety and fear-related disorders are among the most common of all psychiatric conditions. They cause extraordinary suffering and functional impairment. They are almost universally undertreated. And they interact with poverty, gender inequality, occupational stress, and social marginalization in ways that compound their impact and make their treatment more challenging. Understanding them, in depth and with genuine

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intellectual engagement, is one of the most important things a psychiatrist, a physician, or a public health professional in Bangladesh can do.

This third part of the textbook is devoted to the anxiety and fear-related disorders, the obsessive-compulsive and related disorders, and the trauma and stress-related disorders. These conditions are grouped together partly for organizational convenience and partly because they share certain common features, particularly the centrality of fear, perceived threat, and dysregulated responses to danger in their pathophysiology, while also having important distinctions from one another that carry significant clinical implications. The ICD-11, published in 2019, made a significant structural change by separating obsessive-compulsive and related disorders and trauma and stress-related disorders into their own separate chapters, distinct from the anxiety and fear-related disorders chapter, reflecting growing evidence that these conditions have distinct neurobiological profiles and treatment implications. We will follow this structure while maintaining an integrative approach that acknowledges the overlaps and connections.

19.2 Defining Anxiety: The Spectrum from Adaptive to Pathological

Anxiety is not inherently pathological. It is one of the most fundamental and adaptive features of the human nervous system: a state of heightened alertness, physiological arousal, and vigilant attention to potential threats that has been shaped by millions of years of evolutionary selection because it promotes survival. The individual who is mildly anxious about an examination prepares more thoroughly. The person who feels anxious crossing a busy road pays more careful attention to traffic. The parent who feels a pulse of anxiety when a child is momentarily out of sight is more vigilant about the child's safety. Anxiety, in its appropriate form and appropriate intensity, is not a problem to be eliminated. It is a signal system to be respected.

The pathological begins where the adaptive ends. Anxiety becomes a disorder when it is disproportionate in intensity relative to the actual threat, when it is persistent rather than time-limited, when it extends to situations that are not genuinely dangerous, when it produces avoidance behaviors that progressively restrict the person's life, and when it causes significant distress or impairment in functioning. The challenge, both conceptually and clinically, is to identify where on the spectrum from adaptive to pathological any individual's anxiety falls, and this judgment is inevitably shaped by cultural norms about what level of anxiety is considered appropriate in what circumstances.

This judgment is particularly complex in Bangladesh, because many of the situations that generate anxiety in Bangladeshi lives are genuinely threatening. A garment worker whose livelihood is permanently insecure, whose workplace may be structurally unsafe, whose family is vulnerable to flooding or cyclone, and whose social position offers few resources for managing adversity is not irrational to feel a degree of chronic background dread. The question of whether her anxiety constitutes a disorder, or is instead a rational response to genuinely dangerous circumstances, is not easily resolved, and the answer has important implications for how she is helped. The clinician who simply diagnoses generalized anxiety disorder and prescribes an SSRI, without attending to the social conditions that fuel the anxiety, is providing incomplete care. The clinician who refuses to diagnose or treat because the anxiety seems "understandable" is leaving the patient without help that could significantly reduce her suffering. The sophisticated clinician

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does both things simultaneously: attends to the social determinants while also providing evidence-based treatment for the anxiety itself, understanding that the two interventions are not mutually exclusive.

Several important conceptual distinctions deserve introduction before we proceed to clinical specifics. Fear refers to the emotional and physiological response to a real or perceived immediate threat. It is a response to something present or clearly imminent. Anxiety, by contrast, is a forward-looking apprehension about possible future threat, a state of worry and anticipatory dread in which the threat is uncertain, diffuse, or not immediately present. Worry is the cognitive component of anxiety: the repetitive, uncontrollable chains of negative thoughts about future events that are central to conditions like generalized anxiety disorder. Panic is a sudden, intense surge of physiological arousal and extreme fear, typically reaching peak intensity within ten minutes, which may or may not have a specific trigger. Avoidance refers to the behavioral strategy of reducing anxiety by steering clear of feared stimuli, situations, thoughts, or feelings; it is the mechanism through which anxiety disorders become self-perpetuating and progressive.

Understanding the relationships among these components is clinically essential. A person with panic disorder experiences panic attacks (fear) and then develops anxiety about future panic attacks (anxiety), begins to avoid situations associated with panic (avoidance), and engages in constant mental monitoring of bodily sensations for signs of an impending attack (worry). Each component reinforces the others, and effective treatment must address all of them.

19.3 Classification of Anxiety and Related Disorders: ICD-11 and DSM-5-TR

The ICD-11 anxiety and fear-related disorders chapter includes seven major categories: generalized anxiety disorder, panic disorder, agoraphobia, specific phobia, social anxiety disorder, separation anxiety disorder, and selective mutism. Each of these categories has a characteristic core feature: for generalized anxiety disorder, the core is excessive and uncontrollable worry about multiple life domains; for panic disorder, it is recurrent unexpected panic attacks with anticipatory anxiety; for agoraphobia, it is fear of and avoidance of situations from which escape might be difficult or in which help might not be available; for specific phobia, it is marked fear of a specific object or situation; for social anxiety disorder, it is fear of scrutiny and negative evaluation in social situations; for separation anxiety disorder, it is excessive fear of separation from attachment figures; and for selective mutism, it is consistent failure to speak in specific social situations despite speaking in others.

The DSM-5-TR, updated in 2022, includes a broadly similar list with some differences in organization and criteria. One important difference is that DSM-5-TR treats agoraphobia as a separate diagnosis from panic disorder, reflecting evidence that agoraphobia can arise in the context of panic disorder but also independently in relation to other medical conditions or without a clear precipitant.

Both classification systems separate OCD and related disorders, and trauma and stress-related disorders, into their own chapters. This separation is not merely administrative. The neurobiological profile of OCD is increasingly understood to be distinct from the anxiety disorders, with the cortico-striato-thalamo-cortical loops playing the central role rather than the

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amygdala-centered fear circuitry. The trauma and stress-related disorders are unified not by a particular symptom cluster but by their explicit etiological relationship to traumatic or extremely stressful life events, which gives them a distinct clinical and therapeutic profile. Separating these conditions into distinct chapters facilitates more precise research and more targeted treatment development, and we believe the clinical payoff of this nosological precision justifies the organizational complexity it introduces.

19.4 The Global and Bangladeshi Burden of Anxiety Disorders

The global burden of anxiety disorders is enormous. The WHO estimated in 2022 that approximately 301 million people globally were living with an anxiety disorder at any given time, making anxiety disorders collectively the most prevalent class of mental disorders in the world. The COVID-19 pandemic is estimated to have increased the prevalence of anxiety disorders by approximately 26 percent globally in its first year, and the long-term trajectory of this pandemic-related increase remains an active area of research and debate.

In Bangladesh, the National Mental Health Survey of 2019 found a point prevalence of anxiety disorders of approximately 4.1 percent among adults. This is almost certainly an underestimate, for several reasons. The instruments used in the survey may not have been fully calibrated to local idioms of anxiety presentation, which frequently emphasize somatic symptoms rather than explicit reports of worry or fear. The survey may have underrepresented the most vulnerable population groups, including women in purdah, slum residents, and rural populations in remote areas. And the inherent difficulty of accurately measuring conditions that carry significant stigma and are frequently unreported means that self-report survey data almost certainly understates true prevalence.

Community-based studies using more sensitive instruments and qualitative methods have consistently suggested higher rates. A study conducted in selected rural districts of Bangladesh and published in 2023 found an age-standardized prevalence of any anxiety disorder of approximately 8 to 10 percent, with generalized anxiety disorder being the most common specific diagnosis. A study in the urban slums of Dhaka found rates approaching 15 percent for any anxiety disorder, driven particularly by the high levels of occupational insecurity, domestic violence, and poverty that characterize life in informal settlements.

Even accepting the conservative figure of 4.1 percent, this implies that approximately 6 to 7 million people in Bangladesh are living with an anxiety disorder at any given time, with the great majority receiving no effective treatment. The economic and social costs of this untreated burden are profound. Anxiety disorders are associated with reduced work productivity, increased absenteeism, impaired educational attainment, disrupted family relationships, and markedly increased utilization of general medical services for somatic symptoms, a pattern that is particularly costly and inefficient when the underlying anxiety is not recognized.

CHAPTER TWENTY: NEUROBIOLOGY OF FEAR AND ANXIETY: FROM THE AMYGDALA TO THE ANXIOUS MIND

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20.1 The Fear Circuit: Architecture and Function

Understanding the neurobiology of fear and anxiety is not an optional extra for the practicing psychiatrist. It is foundational knowledge that should inform every clinical encounter. An understanding of what is happening in the brain of a person with panic disorder, social anxiety disorder, or PTSD does not only satisfy intellectual curiosity. It provides a rational basis for treatment decisions, generates realistic expectations for patients and families, and helps to explain why psychological treatments can produce lasting biological changes and why pharmacological treatments can facilitate psychological change.

The central structure in the neurobiology of fear is the amygdala, a paired almond-shaped cluster of nuclei located deep in the medial temporal lobe, one on each side of the brain. The amygdala functions as the brain's primary threat-detection and threat-response center. It receives sensory information from virtually every modality, including visual, auditory, olfactory, and somatosensory, both directly from subcortical sensory processing areas (the fast, automatic pathway that Joseph LeDoux has called "the low road") and indirectly via cortical processing areas (the slower, more deliberate "high road"). The low road activates the amygdala in response to potentially threatening stimuli before conscious processing has occurred, which is why a loud sudden noise makes you flinch before you know what caused it. The high road allows contextual information to modulate the amygdala response once conscious evaluation has taken place.

When the amygdala detects a threat, it initiates a coordinated cascade of responses through its output projections to multiple brain regions and body systems. Projections to the hypothalamus activate the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis, producing the classical physiological features of the fear response: increased heart rate, elevated blood pressure, faster breathing, pupil dilation, redirection of blood flow to large muscles, inhibition of digestion, and release of cortisol and adrenaline from the adrenal glands. Projections to the brainstem activate the locus coeruleus, which releases norepinephrine throughout the brain, increasing alertness, attention, and arousal. Projections to the periaqueductal gray matter trigger defensive behaviors including freezing, flight, and fight responses. Projections to the striatum facilitate habitual and automatic defensive actions.

This coordinated response is adaptive in the face of acute physical danger: it prepares the body and mind for rapid, vigorous, protective action. The problem arises when this response system is activated in the absence of real danger, or when it fails to extinguish after the danger has passed, or when it becomes sensitized so that progressively smaller cues activate progressively larger responses. These are the conditions that underlie the anxiety disorders.

20.2 The Prefrontal Cortex: Regulation, Suppression, and the Failure of Top-Down Control

The amygdala does not operate in isolation. It is extensively connected to the prefrontal cortex, particularly the medial prefrontal cortex and the ventromedial prefrontal cortex, and these prefrontal regions play a critical role in regulating the amygdala response through top-down inhibitory control. The ventromedial prefrontal cortex is central to fear extinction, the gradual reduction in fear responses to stimuli that are no longer associated with real danger. This is the

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neural mechanism underlying the effectiveness of exposure-based psychotherapies: when a patient with a spider phobia repeatedly encounters spiders in controlled circumstances without experiencing harm, the ventromedial prefrontal cortex learns to suppress the amygdala's conditioned fear response. The patient does not forget that spiders once seemed dangerous; rather, the brain develops an active inhibitory memory that overrides the fear memory.

In anxiety disorders, this top-down control is compromised. Neuroimaging studies consistently show that people with anxiety disorders have hyperactive amygdalae: they respond more strongly and more rapidly to threatening stimuli than non-anxious individuals. They also show relatively reduced activity in the ventromedial prefrontal cortex and the anterior cingulate cortex, regions that normally dampen the amygdala response when it is contextually inappropriate. This pattern of amygdala hyperactivation combined with prefrontal hypoactivation has been documented across the anxiety disorder spectrum, including in generalized anxiety disorder, panic disorder, social anxiety disorder, specific phobia, and PTSD.

What makes this especially interesting from a treatment perspective is that effective psychological treatments for anxiety disorders, particularly exposure-based cognitive-behavioral therapy, produce neurobiological changes that mirror this picture. Studies using neuroimaging before and after CBT have shown reductions in amygdala activity and increases in prefrontal activity following successful treatment, suggesting that CBT works partly by strengthening the prefrontal regulatory circuits that constrain pathological fear responses. This finding is not merely of academic interest. It demonstrates that psychological interventions produce measurable neurobiological changes, and it provides a neuroscientific rationale for why psychological treatment is a biologically substantive intervention, not "mere talking."

20.3 The Hippocampus and Contextual Fear Memory

The hippocampus is the third major structure in the neural circuitry of anxiety. It plays a central role in contextual fear conditioning: the process by which fear responses become associated not only with specific cues but with the broader context in which a threatening experience occurred. This contextual conditioning is highly relevant to understanding why people with anxiety disorders and PTSD often find themselves in states of persistent fear even in situations that appear objectively safe. If the context of daily life includes cues that were associated with past danger or trauma, the hippocampus can activate fear responses based on contextual associations, even without any specific current threatening stimulus.

Research published in 2024 and 2025 has substantially refined our understanding of the hippocampus's role in anxiety pathology. A particularly important development is the body of evidence linking chronic stress-induced hippocampal changes to anxiety disorders. Chronic psychosocial stress, including the kind associated with poverty, domestic violence, and occupational insecurity, produces measurable reductions in hippocampal volume through glucocorticoid-mediated suppression of neurogenesis, dendritic atrophy, and synaptic remodeling. These hippocampal volume reductions have been documented in major depressive disorder, PTSD, and generalized anxiety disorder, and they are associated with impaired contextual discrimination, an inability to distinguish contexts that are genuinely safe from those that are dangerous. This failure of contextual discrimination may contribute to the

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generalization of fear and anxiety across an increasingly broad range of situations that characterizes the progressive course of untreated anxiety disorders.

20.4 Neurotransmitter Systems in Anxiety: GABA, Serotonin, Norepinephrine, and Glutamate

The major neurotransmitter systems involved in anxiety regulation have been the focus of decades of research and are the targets of currently available pharmacological treatments.

Gamma-aminobutyric acid (GABA) is the brain's primary inhibitory neurotransmitter, and the GABAergic system is the principal endogenous anxiety-suppressing system. GABA exerts its inhibitory effects throughout the fear circuit, including at the amygdala, and drugs that enhance GABAergic transmission, particularly the benzodiazepines, which act as positive allosteric modulators of the GABA-A receptor, are among the most potent anxiolytic agents available. The mechanism is elegant: benzodiazepines increase the frequency of chloride channel opening in response to GABA, producing widespread inhibitory effects throughout the fear circuit, with rapid and powerful reduction of anxiety, panic, and physiological arousal. The limitations of benzodiazepines, particularly their potential for tolerance, dependence, and cognitive impairment, are discussed extensively in the treatment sections below.

Serotonin plays a complex modulatory role in anxiety. The relationship between serotonin and anxiety is not a simple one of "more serotonin, less anxiety," as popular accounts of the "chemical imbalance" theory might suggest. Rather, serotonin exerts different effects depending on which serotonin receptor subtype is activated and in which brain region. The therapeutic effects of SSRIs and SNRIs in anxiety disorders are now understood to involve a complex cascade of neuroadaptive changes that extend well beyond simple elevation of synaptic serotonin, including neuroplastic changes in the prefrontal cortex and hippocampus, desensitization of inhibitory autoreceptors that regulate serotonin release, and downstream effects on glutamate and GABA signaling. This is why SSRIs require several weeks of continuous treatment before anxiolytic effects become apparent: the relevant effects are neuroplastic rather than simply neurochemical.

Norepinephrine, released principally from the locus coeruleus in the brainstem, is a critical mediator of arousal, alertness, and the acute stress response. Hyperactivity of the noradrenergic system is associated with the hyperarousal, exaggerated startle response, and sleep disturbance that are prominent features of PTSD and generalized anxiety disorder. The efficacy of venlafaxine and duloxetine, which inhibit both serotonin and norepinephrine reuptake, in both generalized anxiety disorder and social anxiety disorder is partly attributed to their normalization of dysregulated noradrenergic tone.

Glutamate, the brain's primary excitatory neurotransmitter, has emerged as an increasingly important player in anxiety neurobiology, partly through research on ketamine and its rapid anxiolytic and antidepressant effects, and partly through the development of novel anxiolytic compounds targeting glutamate receptors. The N-methyl-D-aspartate (NMDA) receptor, a subtype of glutamate receptor, is particularly important. NMDA receptor-dependent synaptic plasticity underlies both fear conditioning (the acquisition of fear associations) and fear extinction (the suppression of fear responses). Research published in 2025 has expanded our

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understanding of how targeting glutamatergic signaling in the amygdala-prefrontal circuit might offer novel approaches to anxiety treatment, particularly for cases that are resistant to serotonergic and GABAergic treatments.

20.5 The Hypothalamic-Pituitary-Adrenal Axis and Chronic Anxiety

The HPA axis is the body's primary neuroendocrine stress-response system. When the amygdala detects threat, it signals the hypothalamus to release corticotropin-releasing hormone (CRH), which triggers the pituitary gland to release adrenocorticotropic hormone (ACTH), which in turn signals the adrenal cortex to release cortisol. Cortisol has broad systemic effects that prepare the organism for coping with acute stress, including mobilization of energy stores, suppression of immune function, and modulation of cognitive processes. Under normal circumstances, elevated cortisol feeds back negatively to the hypothalamus and pituitary, turning off the stress response once the acute stressor has passed.

In chronic anxiety states, this elegant regulatory system becomes dysregulated. Chronic activation of the HPA axis, particularly when it is driven by uncontrollable or unpredictable stressors, produces a range of adverse effects including alterations in cortisol receptor sensitivity (which can impair the negative feedback mechanism), chronic elevation of inflammatory cytokines (which have independent effects on mood and cognition), disruption of sleep architecture, and the hippocampal damage described above. A 2025 meta-analysis published in Psychoneuroendocrinology confirmed significantly elevated baseline cortisol levels and dysregulated diurnal cortisol patterns across multiple anxiety disorder categories, with the most pronounced dysregulation observed in PTSD and generalized anxiety disorder.

The relationship between the HPA axis and anxiety has particular relevance in Bangladesh, where a substantial proportion of the population is exposed to chronic, uncontrollable stressors including poverty, food insecurity, natural disasters, and domestic violence. The biological embedding of social adversity through chronic HPA activation may partly explain why anxiety disorders are so prevalent in contexts of social disadvantage, and why effective treatment requires attention to the social determinants of anxiety as well as its neurobiological substrates.

20.6 The Insula and Interoception in Anxiety

The insula, a cortical region buried within the lateral sulcus of the brain, has emerged in the past decade as a critically important structure in the neurobiology of anxiety. The insula is the primary cortical processor of interoceptive information, the internal bodily signals, including heart rate, respiratory rhythm, body temperature, gut motility, and muscle tension, that the brain uses to construct a moment-by-moment awareness of the body's physiological state.

Research over the past decade has established that hyperactivity of the anterior insula is a consistent feature of panic disorder and is associated with the catastrophic misinterpretation of normal bodily sensations that is central to the cognitive model of panic. When a person with panic disorder notices a slight increase in heart rate, the hyperactive anterior insula amplifies this signal, making it feel more intense and alarming than it would in a person without panic disorder. This amplified interoceptive signal then activates the amygdala, which initiates the full

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panic response, which in turn creates the very physiological arousal that the person was initially monitoring, creating a vicious cycle of escalating panic.

This interoceptive amplification model of panic disorder has important treatment implications. It provides a neurobiological rationale for the interoceptive exposure techniques used in CBT for panic disorder, in which patients deliberately induce the very physical sensations they fear (by spinning in a chair to produce dizziness, breathing through a narrow straw to produce breathlessness, or breathing rapidly to produce hyperventilation) and learn through repeated experience that these sensations are not dangerous. It also points toward potential novel treatment targets, including interventions that modulate insula activity through mindfulness-based approaches, biofeedback, or pharmacological means.

CHAPTER TWENTY-ONE: GENERALIZED ANXIETY DISORDER: THE DISORDER OF CHRONIC WORRY

21.1 Clinical Features and Diagnostic Criteria

Generalized anxiety disorder (GAD) is, in its essence, the clinical manifestation of chronic, pathological worry. It is one of the most prevalent anxiety disorders globally, affecting approximately 6 percent of the population over a lifetime, and it is the anxiety disorder most commonly encountered in primary care settings, largely because its somatic manifestations bring affected individuals to general practitioners and medical outpatient departments rather than to mental health services.

The core diagnostic feature of GAD is excessive anxiety and worry about multiple topics, events, or activities, which the person finds difficult or impossible to control. The worry is qualitatively different from normal concern: it is more frequent, more intense, more difficult to dismiss, more pervasive, and more distressing. People with GAD typically report that their minds are constantly running with "what if" scenarios, jumping from one worry to another, catastrophizing about minor events, and being unable to achieve the relaxation or mental rest that most people take for granted.

According to ICD-11 criteria, the diagnosis of GAD requires that the anxiety and worry are accompanied by at least one of the following additional symptoms: feeling restless, keyed up, or on edge; being easily fatigued; difficulty concentrating or the mind going blank; irritability; muscle tension; and sleep disturbance, usually characterized by difficulty falling asleep, staying asleep, or experiencing non-restorative sleep. The DSM-5-TR requires at least three of these associated symptoms, though only one is required for children. The ICD-11 also specifies that the symptoms persist for more days than not for at least several months, a criterion that reflects the persistent, chronic nature of the disorder.

In clinical practice, distinguishing GAD from normal worry and from the anxious features that accompany other psychiatric conditions requires careful assessment. A useful clinical heuristic is to ask not only what the person worries about but how they experience their own worry.

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People with GAD are typically acutely aware that their worry is excessive and difficult to control, they often describe it as egodystonic (experienced as alien to their sense of self, as something that happens to them rather than something they choose to do), and they frequently report significant distress about the worry itself, above and beyond the distress caused by the content of the worries.

21.2 GAD in Bangladesh: The Epidemiology of a Worried Nation

GAD is the most common anxiety disorder in Bangladesh as measured by the National Mental Health Survey 2019, and its clinical presentation in Bangladeshi patients has several distinctive features that deserve careful attention.

The content of worry in Bangladeshi patients with GAD reflects the specific anxieties of Bangladeshi social life. Financial insecurity is an almost universal theme, and not without reason, since even households that are technically above the poverty line may have minimal financial buffers against unexpected expenses. Worries about the health of family members, particularly children and elderly parents, are extremely common. Worries about marriage, including the prospect of not finding a suitable spouse, the cost and conduct of wedding ceremonies, dowry demands, and the stability of the marital relationship once established, are prominent particularly among women in their twenties and thirties. Worries about children's educational performance and future employment prospects reflect the intense competition for limited opportunities that characterizes Bangladeshi life. For men, worries about economic provision for the family, about status and reputation in the community, and about job security are prominent themes.

The somatic presentation of GAD in Bangladesh deserves particular emphasis. As discussed in Part One, psychological distress in Bangladesh is very frequently expressed through somatic symptoms, and GAD is no exception. The most common somatic presentations include headache (particularly a sensation of tightness or pressure in the head, sometimes described as a "tight band" around the skull), pain or tension in the neck and shoulders, chest tightness, palpitations, gastrointestinal symptoms including nausea and diarrhea, fatigue, and weakness. Many patients with GAD present to general physicians and medical specialists with these somatic complaints, and in the absence of a systematic inquiry about anxiety and worry, the underlying GAD is frequently missed or misattributed to physical disease, leading to extensive and unhelpful diagnostic workups and inappropriate treatments.

One idiom of distress that has particular relevance to anxiety presentations in Bangladesh is what has been called "nervousness" or "neurological weakness" (in Bangla, sometimes expressed as "nerv-er samashya" or similar colloquial formulations). Patients frequently conceptualize their symptoms in terms of a weak or damaged nervous system that needs strengthening through tonics, vitamins, or other restorative agents, rather than in terms of a mental disorder that might respond to psychotherapy or psychiatric medication. This folk explanatory model is not simply an obstacle to treatment, since it represents a legitimate attempt to make sense of genuine suffering, but it does require careful navigation by the clinician who wants to engage the patient in an evidence-based treatment plan.

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21.3 Pathophysiology and Theoretical Frameworks for GAD

Several theoretical frameworks have been proposed to explain why some people develop GAD while others do not, and why worry becomes pathological rather than adaptive in people with this condition.

The cognitive avoidance theory, developed by Tom Borkovec and colleagues, proposes that worry in GAD functions paradoxically as a form of cognitive avoidance. Worry involves verbal-linguistic processing of threatening material, and because it is more abstract and less vivid than imagery-based emotional processing, it actually reduces emotional arousal in the short term even while perpetuating anxiety in the long term. People with GAD worry partly because worry reduces distressing emotional arousal: it is a form of cognitive avoidance that prevents full emotional processing of feared scenarios. This explains why worry feels compelling and even "useful" to people with GAD despite being objectively dysfunctional, and it has important implications for treatment: effective treatment must address not just the content of worries but the function that worrying serves.

The metacognitive model, developed by Adrian Wells, proposes that what distinguishes pathological from normal worry is not the content of the worries but the metacognitive beliefs that people hold about their own worrying. People with GAD hold positive metacognitive beliefs about worry (they believe that worrying is helpful, protective, and necessary for coping) alongside negative metacognitive beliefs (they believe that worrying is uncontrollable and dangerous to their mental and physical health). These conflicting metacognitive beliefs create a situation in which people engage in worrying to feel safe, then become increasingly anxious about the worry itself, leading to a secondary layer of meta-worry on top of the original object-level worry. Treatment in the metacognitive framework therefore targets metacognitive beliefs directly, rather than the content of the worries themselves.

The intolerance of uncertainty model, developed by Michel Dugas and colleagues, proposes that the fundamental cognitive vulnerability in GAD is an exaggerated intolerance of uncertainty: an inability to tolerate ambiguity or the possibility that negative events might occur. People with high intolerance of uncertainty react to any uncertain situation as if it were threatening, regardless of the actual probability of a negative outcome. This model explains the "what if" quality of GAD worry and the tendency of people with GAD to seek reassurance, engage in excessive information-seeking, and avoid situations where outcomes are uncertain. A 2024 meta-analysis confirmed that intolerance of uncertainty is the strongest and most specific cognitive predictor of GAD severity across multiple populations and cultures.

21.4 Assessment of GAD in Clinical Practice

The systematic assessment of GAD in clinical settings requires both a clinical interview and the use of validated self-report instruments. The most widely used brief screening instrument is the Generalized Anxiety Disorder-7 (GAD-7), a seven-item questionnaire originally developed for use in primary care. Each item rates one of the seven core symptoms of GAD on a four-point scale from "not at all" (0) to "nearly every day" (3), giving a total score of 0 to 21. Scores of 5,

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10, and 15 represent mild, moderate, and severe anxiety thresholds respectively, and a score of 10 or above is typically used as a cut-off for further evaluation or treatment.

The GAD-7 has been validated in Bangla translation in several studies conducted in Bangladesh, and its performance characteristics in Bangladeshi populations appear broadly similar to those reported in Western populations, with good sensitivity and specificity for detecting GAD and other anxiety disorders. However, the translation and cultural adaptation of screening instruments requires care. Literal translation may not capture the cultural nuances of how symptoms are experienced and expressed in Bangladesh, and some items may require rewording to reflect local idioms.

The clinical interview for GAD should systematically assess the content, frequency, intensity, and controllability of worry; the associated somatic and cognitive symptoms; the duration and course of symptoms; the degree of functional impairment; and any precipitating or maintaining factors, including social stressors, relationship difficulties, occupational pressures, and exposure to adversity. A careful inquiry about comorbid conditions, particularly depression, other anxiety disorders, and substance use, is essential, since comorbidity is the rule rather than the exception in GAD.

21.5 Pharmacological Treatment of GAD

The first-line pharmacological treatments for GAD are the SSRIs and SNRIs. Among the SSRIs, escitalopram and sertraline have the strongest evidence base for GAD and are generally well tolerated. Among the SNRIs, venlafaxine extended-release and duloxetine are both evidence-based first-line options. These agents are not anxiolytic in the immediate sense: they do not produce acute relief of anxiety, and indeed many patients experience a temporary increase in anxiety or activation when they first start an SSRI or SNRI. The therapeutic effect develops over two to four weeks of continuous treatment, and the full anxiolytic effect may not be apparent until six to eight weeks. This delayed onset requires careful patient education and management, since patients who experience initial activation or worsening are at risk of discontinuing the medication prematurely.

The decision about which SSRI or SNRI to use first should be guided by the patient's previous medication history, comorbid conditions, side effect profile, and cost and availability considerations. In Bangladesh, escitalopram and sertraline are both available in generic form at relatively low cost, making them practical first-line choices. Fluoxetine, while less well studied in GAD specifically, has the advantage of a very long half-life that makes it more forgiving of occasional missed doses, which may be a practical advantage in settings where medication adherence is unpredictable.

Buspirone is a serotonin 1A partial agonist with established efficacy in GAD that is sometimes overlooked in clinical practice. It has the significant advantage of not producing dependence, sedation, or cognitive impairment, making it a useful alternative for patients in whom benzodiazepines are problematic. Its main disadvantage is a delayed onset of action similar to that of the SSRIs, and it requires three-times-daily dosing, which can complicate adherence. Buspirone is available in Bangladesh and should be more widely used than it currently is.

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Benzodiazepines, while among the most effective acute anxiolytics available, are not recommended as first-line treatments for GAD because of their well-documented risks of tolerance, dependence, cognitive impairment, and withdrawal. However, they are widely prescribed in Bangladesh, often by general practitioners without psychiatric training, and their appropriate and inappropriate uses deserve careful consideration. Short-term use of benzodiazepines (generally no more than two to four weeks) may be appropriate in specific situations, including severe, acutely disabling anxiety at the initiation of SSRI treatment, while awaiting the onset of the SSRI's therapeutic effect. The chronic use of benzodiazepines for GAD, which is widespread in Bangladeshi clinical practice, represents a significant public health problem: it exposes large numbers of patients to the risks of dependence and cognitive decline while providing only temporary symptomatic relief without addressing the underlying disorder.

Pregabalin, an alpha-2-delta calcium channel ligand originally developed for neuropathic pain, has established efficacy in GAD and is approved for this indication in several countries. Its advantages include a relatively rapid onset of action, good efficacy for both somatic and cognitive symptoms of GAD, and a tolerability profile that differs from the SSRIs and benzodiazepines. Its main disadvantages include sedation, dizziness, and weight gain, and there have been concerns about potential for misuse. Its availability and cost in Bangladesh limit its current use.

A 2025 systematic review published in Drugs in Context, examining psychiatric medications approved for anxiety disorders and OCD from 2008 to 2024, confirmed that SSRIs and SNRIs remain the pharmacological cornerstone of anxiety disorder treatment. The review also noted the emergence of several promising new pharmacological agents for anxiety, including the neurosteroid brexanolone and its analogues targeting GABA-A receptors, novel serotonin receptor modulators, and compounds targeting the neuropeptide systems (including CRH antagonists and neuropeptide Y agonists). While most of these remain in early-stage development, they signal a continued expansion of the pharmacological armamentarium for anxiety disorders.

21.6 Psychological Treatment of GAD: CBT, Metacognitive Therapy, and Acceptance-Based Approaches

Cognitive-behavioral therapy for GAD is one of the most extensively studied psychotherapeutic interventions in psychiatry, with a substantial evidence base supporting its efficacy. The standard CBT protocol for GAD includes several key components: psychoeducation about anxiety and the nature of worry; relaxation training (including progressive muscle relaxation and controlled breathing); cognitive restructuring, in which patients learn to identify and challenge the distorted thinking patterns that maintain anxiety; worry postponement, a behavioral technique in which patients learn to restrict worry to a designated "worry time" rather than allowing it to permeate the entire day; and an element of behavioral exposure, in which patients confront avoided situations and imagined feared outcomes. Several systematic reviews and meta-analyses have established that CBT produces clinically meaningful reductions in worry and anxiety in GAD, with effect sizes in the moderate to large range.

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Metacognitive therapy, as developed by Adrian Wells, has demonstrated efficacy in several randomized controlled trials for GAD, with some evidence suggesting superiority to standard CBT. The key therapeutic techniques include detached mindfulness (learning to observe thoughts without engaging with or responding to them), postponement of worry, verbal challenge and behavioral experiments targeting metacognitive beliefs, and attention training to reduce self-focused and threat-focused attention. A 2024 randomized trial comparing metacognitive therapy with CBT found equivalent outcomes, with both producing substantial improvements, but metacognitive therapy showed a faster trajectory of symptom reduction.

Acceptance and commitment therapy (ACT) and mindfulness-based cognitive therapy (MBCT) represent alternative psychological approaches with growing evidence bases for GAD. ACT aims not to reduce worry directly but to change the patient's relationship to their worries, reducing the struggle against anxiety and increasing psychological flexibility, the capacity to pursue valued life activities even in the presence of anxiety. MBCT teaches mindful awareness of the present moment as an alternative to the ruminative, anticipatory quality of anxious worry. Meta-analyses published in 2024 and 2025 have confirmed efficacy for both ACT and MBCT in anxiety disorders, with particular promise for patients who have not responded adequately to standard CBT.

The cultural adaptation of CBT for use in Bangladesh is a critical priority. Standard CBT protocols developed in Western settings include assumptions about communication styles, attitudes toward cognitive challenging, the appropriateness of direct expression of emotion, and the role of the individual versus the family in decision-making that do not translate straightforwardly to the Bangladeshi context. Several principles should guide culturally adapted CBT in Bangladesh. The language of psychoeducation should use idioms and metaphors that resonate with local experience rather than technical Western psychiatric terminology. The role of family should be acknowledged and incorporated, since many Bangladeshi patients will not engage in treatment independently of their families. Spiritual and religious frameworks should be respected and, where possible, integrated, since many patients will draw on Islamic concepts and practices in their coping. The hierarchical nature of the therapeutic relationship in Bangladesh, where clinicians are typically accorded high authority and where direct questioning by patients of the clinician's advice is unusual, requires specific attention: therapists must actively create an egalitarian therapeutic space and explicitly invite the patient's feedback and engagement.

21.7 Case Study 19.1: Generalized Anxiety Disorder in a Bangladeshi Context

Rafiqul is a 42-year-old male school teacher from Sylhet who presents to a psychiatric outpatient clinic with a three-year history of what he describes as "excessive tension and nervousness." He reports constant worry about multiple domains of his life: his health (he is convinced he has an undetected serious illness, despite three separate workups by physicians that have found nothing wrong), his finances (despite having a secure government job, he worries constantly about unexpected expenses, his children's educational costs, and his aging parents' medical needs), and his professional performance (he worries about whether he is teaching well, whether his students respect him, and whether he might be dismissed from his post). He reports difficulty sleeping, typically taking one to two hours to fall asleep, waking at least twice in the night, and

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waking early in the morning with an immediate surge of anxious thoughts about the day ahead. He is irritable with his wife and children, which distresses him greatly. He has muscle pain in his neck and shoulders that a physician has investigated and treated as a physical problem without improvement. He feels exhausted much of the time.

His PHQ-4, a brief combined depression and anxiety screener, scores 6 out of 12 (3 on the anxiety subscale, 3 on the depression subscale), and his GAD-7 scores 14, indicating moderate to severe generalized anxiety. His PHQ-9 depression score is 11, indicating moderate depression, reflecting the comorbid depressive symptoms that are present in approximately 60 percent of patients with GAD.

Rafiqul attributes his symptoms to "nervousness" and "weak nerves," and he has a strong preference for a physical explanation and a physical treatment. He has been told by a friend that he should take vitamin B12 injections. He is somewhat skeptical of the psychiatric consultation and mentions that his family would be embarrassed if they knew he was seeing a psychiatrist.

Management involves several steps. First, a careful explanation of GAD using language that resonates with Rafiqul's own framework: the clinician explains that anxiety involves the nervous system becoming "overactive," that this is a recognized medical condition, and that it responds well to specific treatments. The language bridges the gap between Rafiqul's folk model and the biomedical model without dismissing either. Second, escitalopram 10 mg daily is initiated with careful explanation of the delayed onset, the importance of continuing despite any initial side effects, and the need for at least six to eight weeks of treatment before assessing efficacy. Third, psychoeducation about the worry cycle is provided, using a simple diagram to illustrate how worry begets tension, which begets more worry. Fourth, a referral for CBT is made, with the explanation framed in terms of practical skills for managing the nervous system rather than in terms that might sound psychologically threatening to Rafiqul. Fifth, Rafiqul is given the opportunity to discuss his concerns about stigma, and a plan is made for how to manage the family's awareness of his treatment in a way that he feels comfortable with.

Follow-up at six weeks shows meaningful improvement in sleep and muscle tension, with modest reduction in worry. The escitalopram is increased to 20 mg. The CBT referral has not yet been acted on because of concerns about time and cost. A simplified self-help CBT workbook adapted for Bangladesh is provided. At twelve weeks, Rafiqul reports significant improvement across all domains, with GAD-7 score reduced from 14 to 7. He is encouraged to continue treatment for at least twelve months before discussing gradual discontinuation.

CHAPTER TWENTY-TWO: PANIC DISORDER AND AGORAPHOBIA

22.1 The Clinical Anatomy of a Panic Attack

Few medical events are as terrifying to the patient who experiences them as a panic attack. In the space of minutes, a person who appeared to be entirely healthy is seized by an overwhelming conviction of imminent death or catastrophic mental collapse, accompanied by an extraordinary

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array of physiological symptoms: a pounding heart that threatens to burst from the chest; the inability to breathe, despite frenetically gasping for air; a sensation of derealization that makes the world seem unreal and strange; tingling and numbness in the extremities; dizziness and a sense of falling; sweating profusely; trembling uncontrollably; and, above all, the absolute, primal certainty that something catastrophically terrible is about to happen.

A panic attack is defined as an abrupt surge of intense fear or intense discomfort that reaches a peak within minutes and during which at least four of the following symptoms occur: palpitations, pounding heart, or accelerated heart rate; sweating; trembling or shaking; sensations of shortness of breath or smothering; feelings of choking; chest pain or discomfort; nausea or abdominal distress; feeling dizzy, unsteady, light-headed, or faint; chills or hot flushes; paraesthesias (numbness or tingling sensations); derealization or depersonalization; fear of losing control or "going crazy"; and fear of dying.

The ICD-11 distinguishes between expected panic attacks, which occur in the context of a known feared stimulus (for example, a person with a spider phobia who has a panic attack when encountering a spider), and unexpected panic attacks, which arise without any apparent trigger or cue. The diagnosis of panic disorder requires recurrent unexpected panic attacks and the development of persistent concern about future attacks or significant maladaptive behavioral change related to the attacks. It is the unexpected, "out of the blue" quality of panic attacks in panic disorder that gives them their particular psychological impact: the person cannot identify a trigger to avoid, cannot predict when the next attack will occur, and therefore lives in a state of constant anticipatory dread.

22.2 The Cognitive Model of Panic Disorder: Catastrophic Misinterpretation

The dominant psychological model of panic disorder, developed by David Clark in the 1980s and extensively validated since, proposes that panic attacks result from the catastrophic misinterpretation of normal or anxiety-induced bodily sensations. On this model, the cycle of a panic attack proceeds as follows: a slight physiological change occurs, such as a mild increase in heart rate due to exercise, caffeine, stress, or no discernible cause; the person with a vulnerability to panic disorder notices this sensation and interprets it catastrophically ("my heart is racing: I am having a heart attack"); this catastrophic interpretation triggers the anxiety response, which increases physiological arousal; the increased arousal produces stronger sensations; these stronger sensations are interpreted even more catastrophically; and so on in an escalating spiral until the full panic attack occurs.

This model has profound treatment implications. If panic attacks are driven by catastrophic misinterpretation of bodily sensations, then treatment should focus on correcting the misinterpretation, not on reducing the underlying physiological sensations per se. This leads directly to the interoceptive exposure technique, a cornerstone of CBT for panic disorder, in which patients deliberately induce the very sensations they fear (dizziness by spinning, breathlessness by breathing through a straw, palpitations by vigorous exercise) and learn by repeated experience that these sensations, though uncomfortable, are not dangerous and do not lead to the feared catastrophes of heart attack, stroke, or madness. Interoceptive exposure is one of the most potent and elegant interventions in psychotherapy: it directly targets the

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misinterpretation that drives panic and produces lasting changes in the brain's threat-detection circuitry.

22.3 Agoraphobia: The Geography of Fear

Agoraphobia deserves careful attention as a condition that is both frequently misunderstood and profoundly disabling. The term, derived from the Greek agora (marketplace), is commonly understood to mean a fear of open spaces, but this is too narrow a characterization. ICD-11 defines agoraphobia as marked and excessive fear or anxiety occurring in response to multiple situations that include using public transport, being in crowds, standing in lines, being in open spaces such as markets or parks, being outside the home alone, or being in enclosed places such as shops or cinemas. The common thread is not "open spaces" per se but situations from which escape might be difficult or in which help might not be available if a panic attack or other incapacitating emergency were to occur.

In Bangladesh, agoraphobia takes on distinctive features shaped by the social geography of Bangladeshi life. The extremely crowded public transport system, including the buses, auto-rickshaws, and water vessels that are the primary means of transportation for most of the population, is a particularly common focus of agoraphobic avoidance. The densely crowded markets and bazaars of Bangladeshi urban and rural life are another common avoided situation. For women, the constraints that purdah and social norms impose on mobility outside the home may interact with agoraphobic avoidance in complex ways: the woman who restricts herself to the home may be expressing culturally normative behavior, personal religious conviction, or agoraphobic avoidance, or all three simultaneously, and clinical assessment must attempt to disentangle these possibilities.

The progressive nature of agoraphobic avoidance is one of its most clinically important features. What begins as avoidance of a few specific situations tends to expand over time, as the circle of "safe" situations contracts and the circle of feared situations expands. A person who initially avoids crowded buses may come to avoid all public transport, then all journeys beyond a short radius of home, then all excursions except with a trusted companion, and eventually may become almost entirely housebound. Each step of avoidance temporarily reduces anxiety, which reinforces the avoidant behavior, which narrows the world further. Without treatment, agoraphobia can become profoundly disabling.

22.4 Pharmacological Treatment of Panic Disorder

The first-line pharmacological treatments for panic disorder are the SSRIs and SNRIs, with paroxetine, sertraline, escitalopram, and fluoxetine among the best-studied options. The mechanism and time course of SSRI treatment for panic disorder are similar to those for GAD, with a delayed onset and often a period of initial worsening that requires careful management. Patients should be informed before starting treatment that some increase in anxiety or activation is common in the first one to two weeks and does not indicate that the medication is wrong for them.

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An important practical point in SSRI treatment for panic disorder is that the starting dose should be lower than for depression, typically half the standard starting dose, because the initial activating effects of SSRIs can precipitate or worsen panic attacks in some patients. Starting escitalopram at 5 mg rather than 10 mg, or sertraline at 25 mg rather than 50 mg, and titrating up after one to two weeks, reduces the risk of this troublesome initial response.

Clomipramine, a tricyclic antidepressant with both serotonergic and noradrenergic activity, has established efficacy in panic disorder and was historically the pharmacological treatment of choice before SSRIs became available. It remains a useful alternative in patients who do not respond to SSRIs, though its side effect profile (anticholinergic effects, orthostatic hypotension, sedation, and cardiac conduction effects) and its lethality in overdose require careful consideration, particularly in the context of suicidal risk.

22.5 Psychological Treatment: CBT as the Gold Standard

CBT is the psychological treatment of choice for panic disorder, with a very strong evidence base accumulated across multiple randomized controlled trials. A typical CBT program for panic disorder consists of twelve to sixteen sessions covering psychoeducation about the physiology of panic (which demystifies panic attacks and reduces catastrophic interpretations); cognitive restructuring targeting the specific catastrophic beliefs driving panic; breathing retraining to address the hyperventilation component of panic; interoceptive exposure as described above; and situational exposure for associated agoraphobia, if present.

The combination of CBT and medication is superior to either alone for many patients, and the evidence suggests that CBT may confer advantages in terms of durability of response after treatment discontinuation, since CBT produces lasting changes in the neural circuits underlying fear, whereas pharmacological effects may be more dependent on continued medication use.

CHAPTER TWENTY-THREE: SOCIAL ANXIETY DISORDER: THE HIDDEN EPIDEMIC

23.1 Clinical Features and the Concept of Social Shame

Social anxiety disorder (SAD), also known as social phobia, is characterized by marked and persistent fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions such as having a conversation or meeting unfamiliar people, being observed eating or drinking, and performing in front of others such as giving a speech. The person fears that they will act in a way or show anxiety symptoms that will be negatively evaluated by others, leading to humiliation, embarrassment, rejection, or offense.

SAD is among the most prevalent psychiatric disorders globally, with a lifetime prevalence of approximately 12 percent in Western populations and lower but still substantial rates in Asian populations, where cultural norms about social behavior and shame may shape both the

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expression and the recognition of the condition. The global burden of SAD is enormous but largely invisible, because the condition itself makes people reluctant to seek help and because its symptoms are often mistaken for shyness, introversion, or cultural reticence rather than recognized as a clinical disorder.

23.2 Social Anxiety in Bangladesh: Culture, Shame, and Takey Lajna

Bangladesh, like other South Asian societies, has a rich cultural vocabulary of social shame and face-saving concerns that intersect in complex ways with clinical social anxiety disorder. The Bangla concept of lajna, which encompasses shame, embarrassment, and social self-consciousness, is a significant force in social regulation. Social situations are navigated with careful attention to the maintenance of face (izzat, or honor and social reputation) for oneself and one's family.

Within this cultural context, the line between culturally normative social self-consciousness and clinically significant social anxiety disorder requires careful clinical judgment. A woman who avoids speaking in mixed-gender groups because of cultural norms about gender-appropriate behavior is not necessarily manifesting clinical social anxiety disorder, even though her behavioral pattern might meet the symptom criteria if assessed with a Western instrument without cultural calibration. Conversely, the cultural prevalence of shame-based social regulation may mask the presence of clinical social anxiety in individuals whose avoidance and distress genuinely impairs their functioning but whose behavior is readily explained as cultural conformity by their families and communities.

In clinical practice, several features help distinguish clinically significant social anxiety disorder from culturally normative social self-consciousness in Bangladesh. The degree of subjective distress is important: people with clinical SAD typically experience significant subjective suffering about their social fears, not merely inconvenience. The pervasiveness of avoidance is important: if a person's social anxiety prevents them from doing things they genuinely want to do (such as pursuing educational or occupational opportunities, maintaining friendships, or participating in community life), this suggests clinical significance. The presence of anticipatory anxiety and post-event processing (the tendency to mentally replay social interactions for evidence of humiliation or failure long after they have occurred) is a specific cognitive feature of SAD that is not characteristic of normal social self-consciousness.

23.3 Neurobiological Underpinnings of Social Anxiety

The neurobiology of social anxiety disorder has several distinctive features that set it apart from other anxiety disorders. Neuroimaging studies consistently show heightened amygdala response to social threat cues (particularly images of angry or contemptuous faces) in people with SAD, and this hyperactivation is present even when social stimuli are presented below the threshold of conscious awareness. The self-referential aspects of social anxiety (the tendency to evaluate social situations in terms of how one is being perceived by others) have been linked to hyperactivity in the medial prefrontal cortex, a region involved in self-referential processing, and dysregulation in the lateral prefrontal cortex, which normally regulates self-focused attention.

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The neuropeptide oxytocin has attracted considerable attention as a potential biological mediator of social anxiety. Oxytocin, sometimes called the "bonding hormone," plays a central role in social approach behaviors, trust, and affiliative responses, and a number of studies have found evidence of dysregulated oxytocin signaling in social anxiety disorder. However, the relationship between oxytocin and social behavior is considerably more complex than early popular accounts suggested, and clinical trials of intranasal oxytocin as a treatment for social anxiety have produced mixed results.

23.4 Treatment of Social Anxiety Disorder

Cognitive-behavioral therapy in the form specifically developed for SAD, which incorporates both in-session behavioral experiments and graded in-vivo exposure to feared social situations, is the psychological treatment with the strongest evidence base. The CBT model for SAD emphasizes the role of safety behaviors (subtle actions designed to prevent feared catastrophes, such as avoiding eye contact, speaking very quietly, or preparing scripts for conversations) as a key maintaining mechanism, since safety behaviors prevent the disconfirmation of feared outcomes and perpetuate the conviction that social catastrophe was only narrowly averted by the use of those behaviors. A central element of CBT for SAD is therefore the systematic dropping of safety behaviors during exposure exercises.

Among pharmacological treatments, SSRIs have the best evidence base. Paroxetine, sertraline, escitalopram, and fluvoxamine have all demonstrated efficacy in randomized controlled trials. Venlafaxine extended-release is also approved for SAD in several jurisdictions and has a comparable evidence base to the SSRIs. The beta-blocker propranolol is sometimes used for performance anxiety (a specific subtype of SAD limited to performance situations) on an as-needed basis, targeting the peripheral physiological symptoms of anxiety such as tremor and palpitations, though its effects on the cognitive aspects of social anxiety are limited.

CHAPTER TWENTY-FOUR: SPECIFIC PHOBIAS: FEAR MADE SPECIFIC

24.1 Clinical Features and Classification

Specific phobia is characterized by marked and excessive fear or anxiety that is consistently provoked by a specific object or situation, is disproportionate to the actual risk posed, and is actively avoided or endured with intense anxiety. The DSM-5-TR and ICD-11 recognize five broad types of specific phobia based on the nature of the feared stimulus: animal type (fear of animals, particularly dogs, spiders, snakes, and insects); natural environment type (fear of storms, heights, or water); blood-injection-injury type (fear of blood, needles, or injury); situational type (fear of enclosed spaces, elevators, flying, or driving); and other type (fear of specific foods, sounds, or particular situations).

Specific phobias are among the most prevalent of all psychiatric disorders: lifetime prevalences in the range of 7 to 10 percent are reported in population surveys, with animal phobias and situational phobias being the most common. They are also among the most treatable: a relatively

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brief course of well-conducted exposure therapy produces dramatic and lasting improvement in the majority of cases.

24.2 Specific Phobias in the Bangladeshi Context

The specific content of phobias is shaped by cultural context, and the pattern of specific phobias observed in Bangladesh reflects the specific ecology and culture of Bangladeshi life. Snake phobia is particularly common and clinically significant: Bangladesh has numerous species of venomous snakes, snakebite is a genuine public health problem causing thousands of deaths per year, and fear of snakes is both culturally pervasive and, in the case of specific phobia, clinically excessive relative to actual exposure. The clinical challenge is calibrating the assessment: fear of snakes in a person who regularly works in rice fields where snakes are genuinely present may be a rational protective response, while fear of snakes in a Dhaka apartment-dweller who cannot walk in a park because of fear of encountering a snake may represent clinical specific phobia.

Water phobia and fear of flooding deserve specific attention in the Bangladesh context, given that a significant proportion of the country floods annually and that many Bangladeshis have direct experience of being caught in floods, cyclones, or storm surges. As with snake phobia, clinical judgment about the distinction between rational fear and clinical phobia requires attention to the actual risk environment of the individual patient.

24.3 Treatment: The Science and Art of Exposure

Exposure therapy is the treatment of choice for specific phobias, with an evidence base that is stronger and more consistent than for almost any other psychotherapeutic intervention. The principle is straightforward: systematic, graduated, and prolonged confrontation with the feared stimulus, in the absence of the expected catastrophic outcome, activates the neural machinery of fear extinction in the prefrontal cortex and amygdala, gradually reducing the conditioned fear response. The practice is somewhat more complex: exposure must be conducted in a way that promotes inhibitory learning (the development of new, safety-associated memories that compete with and inhibit the original fear memories) rather than simply temporary suppression of fear that returns once the exposure context ends.

Modern exposure therapy, informed by inhibitory learning theory as articulated by Michelle Craske and colleagues over the past decade, emphasizes several principles that differ somewhat from older "habituation"-focused approaches. Rather than aiming for within-session anxiety reduction (which was the goal of traditional exposure based on habituation theory), modern exposure aims to maximize the violation of fear-based expectancies: the patient should experience the strongest possible mismatch between what they expected to happen (the catastrophic outcome) and what actually happened (nothing terrible). This expectancy violation approach produces more robust and generalizable extinction than habituation-focused approaches, and it justifies paradoxical elements of exposure design such as asking patients to enter feared situations at high arousal rather than waiting until calm.

Virtual reality exposure therapy has emerged as a promising complement to traditional in-vivo exposure, particularly for phobias where the feared stimulus is difficult to access in a real-world

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clinical setting (such as flying phobia, height phobia, or, in the Bangladesh context, snake phobia). A growing body of evidence published in 2024 and 2025 supports the efficacy of VR-delivered exposure for specific phobias, with effect sizes comparable to those achieved with in-vivo exposure, and several studies have found that the combination of VR exposure and in-vivo exposure produces better outcomes than either alone. While VR equipment is not currently accessible in most Bangladeshi clinical settings, the rapid decline in costs of VR technology suggests this may change within the coming decade.

CHAPTER TWENTY-FIVE: OBSESSIVE-COMPULSIVE DISORDER AND RELATED CONDITIONS

25.1 The Nature of Obsessions and Compulsions

Obsessive-compulsive disorder occupies a unique position in the psychiatric nosology because its phenomenology is so distinctive, its subjective experience so particular, and its burden so underestimated by those who have not witnessed or experienced it. OCD is characterized by the presence of obsessions, which are defined as intrusive, persistent, unwanted thoughts, images, or urges that cause significant distress, and compulsions, which are repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession, typically following rules that must be applied rigidly, and aimed at reducing distress or preventing a feared outcome.

What is crucial to understand about obsessions is their egodystonic character: people with OCD recognize, at least for much of the time, that their obsessive thoughts are a product of their own minds and do not reflect their genuine values or intentions. The person with obsessions about harming their child is not a potential child abuser; they are a person who loves their child and is tormented by intrusive thoughts that violate everything they hold dear. The person with obsessions about blasphemy is not spiritually corrupt; they are a person of faith who is tortured by thoughts that feel alien and horrifying to them. This egodystonic quality is both clinically diagnostic and therapeutically important: it distinguishes OCD from psychotic conditions in which intrusive thoughts may be attributed to external agents, and it provides the foundation for the therapeutic alliance needed to engage in exposure-based treatment.

Compulsions are the behavioral response to obsessions. They may be observable behaviors, such as handwashing, checking locks, arranging objects, seeking reassurance, or confessing, or they may be mental acts, such as counting, praying, silently repeating phrases, or mentally reviewing past actions. What compulsions have in common is that they are performed with the aim of preventing a feared outcome or reducing the distress caused by an obsession, but they provide only temporary relief, after which the obsession returns with full intensity. Compulsions are therefore not solutions to obsessions but perpetuators of them: by performing a compulsion, the person fails to learn that the feared outcome would not have occurred even without the compulsion, and they maintain the cycle of obsessional anxiety.

25.2 OCD in Bangladesh: Cultural Themes and the Contamination Spectrum

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OCD is present in Bangladesh at rates broadly similar to global estimates, with a lifetime prevalence of approximately 2 to 3 percent. However, its clinical presentation in Bangladesh has several distinctive cultural features that deserve clinical attention.

The contamination-washing symptom dimension of OCD, which is one of the most common subtypes globally, takes on particular cultural significance in Bangladesh. Islamic ritual purity requirements (tahara) prescribe specific purification rituals (wudu, ghusl, istinja) before prayer and after specific impurity-inducing events, and the line between religiously conscientious observance of these requirements and pathological contamination-related OCD is a genuine clinical challenge. The concept of waswasa (literally "whispers," referring to the Shaytan's whisperings, which is an Islamic religious concept for intrusive tempting or doubting thoughts) has been used by some Bangladeshi patients and families to frame OCD-related doubting and contamination obsessions within a religious explanatory model. Understanding this cultural and religious framework is essential for effective engagement with Muslim patients who have OCD in Bangladesh.

The clinical markers that distinguish OCD-related contamination and washing from religiously motivated ritual practice include: the degree of distress caused by the thoughts and behaviors; the recognition that the behaviors exceed the requirements of religious practice; the inability to feel "clean" or "pure" despite repeated washing; the progressive escalation of rituals over time; the interference with daily functioning; and the egodystonic quality of the thoughts. When a patient washes their hands fifty times before prayer because they cannot achieve a subjective sense of ritual purity despite believing intellectually that the washing has been adequate, they are likely experiencing OCD rather than expressing religious conviction, even though the same cultural framework of Islamic purity requirement is operant.

Religious and harm OCD subtypes are also common in Bangladesh. Patients with religious OCD are tormented by blasphemous thoughts about God or the Prophet, fears of inadvertently committing blasphemy, doubts about the acceptability of their prayers, and compulsive seeking of reassurance from religious scholars or family members. Patients with harm OCD experience intrusive images of harming loved ones and engage in elaborate avoidance and checking behaviors to prevent the imagined harm. Responsibility OCD, involving excessive concern about having caused harm through negligence or error and compulsive checking and confession, is another common subtype.

25.3 Neurobiological Foundations of OCD: The Cortico-Striato-Thalamo-Cortical Loop

The neurobiology of OCD is anchored in the cortico-striato-thalamo-cortical (CSTC) loop, a set of parallel neural circuits connecting the prefrontal cortex, striatum (particularly the caudate nucleus), thalamus, and back to the prefrontal cortex. These circuits are involved in the modulation of goal-directed and habitual behavior, in the checking of actions against intended outcomes, and in the gating of which thoughts and actions receive continued neural processing.

The dominant neurobiological model of OCD posits hyperactivity in the "direct pathway" through the CSTC loop, which activates and amplifies the processing of threatening or doubting thoughts, combined with underactivity in the "indirect pathway," which normally suppresses

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intrusive thoughts and terminates completed behavioral sequences. The net result is that obsessive thoughts and compulsive urges are amplified and maintained far beyond their normal duration, and the neural signal that would normally allow the person to feel "done" after a completed action (locking the door, washing the hands) fails to fire, leaving the person in a persistent state of doubt and urge to repeat.

A landmark 2024 paper in Nature Reviews Neuroscience by Robbins, Banca, and Belin reviewed the neural basis of compulsive disorders and proposed an expanded model that distinguishes between two partially separable processes: the development of obsessional thinking, driven by hyperactivated orbitofrontal cortex-caudate connections, and the development of compulsive behavior, driven by a shift from goal-directed to habitual response systems in the dorsal striatum. This distinction has treatment implications, since it suggests that some patients may have predominantly obsessional presentations (driven by orbitofrontal-caudate hyperactivation) that respond optimally to serotonergic medication and CBT targeting cognitive processes, while others may have more compulsive, habit-driven presentations that require different intervention strategies, potentially including approaches that directly target habit circuitry in the dorsal striatum.

25.4 Assessment of OCD in Clinical Practice

The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is the gold-standard clinician-administered assessment instrument for OCD severity. It separately rates the burden of obsessions and compulsions across five dimensions: time occupied, interference with functioning, associated distress, degree of resistance, and degree of control. Total scores range from 0 to 40, with cut-offs suggesting mild (8 to 15), moderate (16 to 23), severe (24 to 31), and extreme (32 to 40) OCD. The Y-BOCS has been translated into Bangla and validated in several Bangladeshi studies, demonstrating good reliability and validity.

Clinical assessment of OCD should include careful characterization of the specific obsessional content and associated compulsions, since these determine the focus of exposure-based treatment. Assessment should also include evaluation of insight (the degree to which the patient recognizes that their obsessions are irrational), degree of overvalued ideation (in some patients, the obsessional beliefs are held with near-delusional conviction rather than recognized as excessive), comorbid depression and anxiety, and any suicidal ideation, which is significantly elevated in OCD.

25.5 Pharmacological Treatment: SSRIs as the Foundation

The pharmacological treatment of OCD rests on SSRIs, and specifically on SSRIs used at higher doses than are typically effective for depression and other anxiety disorders. The evidence base supports the use of fluvoxamine, fluoxetine, sertraline, paroxetine, and escitalopram, all at the high end of their dose ranges. Clomipramine, the tricyclic antidepressant with potent serotonin reuptake inhibition, was the first medication shown to be effective for OCD and remains an important option for treatment-resistant cases, though its side effect profile requires careful management.

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Several important points about SSRI treatment for OCD deserve emphasis. First, adequate trials require both sufficient dose and sufficient duration: eight to twelve weeks at the maximum tolerated dose is the minimum required to assess whether an SSRI is effective. Premature discontinuation because of apparent non-response at a lower dose or shorter duration is a common clinical error. Second, the response rate of OCD to first-line SSRIs is approximately 40 to 60 percent, meaning that a substantial proportion of patients will require augmentation or alternative strategies. Third, full remission is achieved in a minority of patients with pharmacotherapy alone; for most patients, improvement in symptom severity is the realistic goal, with continued effort at reducing the burden of obsessions and compulsions over time.

For SSRI-resistant OCD, augmentation with low-dose atypical antipsychotics, particularly aripiprazole, risperidone, and quetiapine, has evidence from randomized controlled trials. The mechanism of benefit of antipsychotic augmentation in OCD is not fully understood but may involve modulation of dopamine signaling in the striatum, which complements the serotonergic effects of the SSRI. A 2025 Cochrane review of antipsychotic augmentation in treatment-resistant OCD confirmed meaningful effect sizes for aripiprazole and risperidone over placebo augmentation.

Emerging pharmacological approaches to OCD include glutamatergic agents, particularly N-acetyl cysteine, which reduces glutamate release in the striatum and has shown modest benefit in some open-label and randomized trials; ketamine, which has produced rapid though transient reductions in obsessional symptoms in several small studies, suggesting a role in the management of acute OCD crises; and, most intriguingly, psilocybin, which in a 2025 pharmacological challenge study published in Comprehensive Psychiatry demonstrated significant reductions in OCD symptoms following a single 10-mg dose, providing a rationale for further investigation of psychedelic-assisted therapy in OCD.

25.6 Psychological Treatment: ERP as the Cornerstone

Exposure and response prevention (ERP) is the psychological treatment of choice for OCD, with an evidence base that is among the strongest in all of psychiatry. ERP involves two components that must be applied together: exposure, in which the patient deliberately confronts the situations, objects, or thoughts that trigger obsessional anxiety; and response prevention, in which the patient refrains from performing the compulsions that would normally follow the exposure. Through ERP, the patient learns that the feared catastrophes (contamination spreading, harm occurring, blasphemy being committed) do not occur when the compulsions are not performed, and that the obsessional anxiety, however intense initially, diminishes over time through inhibitory learning.

ERP is not a comfortable treatment. It requires patients to deliberately induce high levels of distress by confronting their worst obsessional fears without seeking relief through compulsions. This requires a strong therapeutic alliance, detailed psychoeducation about the rationale for ERP, careful collaborative construction of an exposure hierarchy that begins with less distressing items and progresses toward more challenging ones, and ongoing support and encouragement from the therapist. Many patients are initially reluctant to engage in ERP because the prospect of deliberately facing their worst fears without the safety net of their

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compulsions feels intolerable. Overcoming this reluctance is itself a therapeutic challenge that requires skill and persistence from the therapist.

Recent innovations in ERP have focused on the application of inhibitory learning theory to optimize treatment outcomes. Key applications include: explicitly asking patients to identify their specific feared outcomes and crafting exposures designed to maximally violate those specific expectations; conducting exposures in multiple contexts to promote generalization; using a "deepened extinction" technique in which high-probability fears are activated while conducting exposure to a lower-probability fear; and removing safety signals during exposure to prevent their use as subtle compulsions. A 2025 review of recent advances in OCD treatment highlighted these inhibitory learning-based enhancements to ERP as among the most promising developments in OCD psychotherapy.

Intensive treatment formats, including the Bergen 4-Day Treatment (B4DT) for OCD, developed in Norway and now being studied and replicated internationally, have attracted significant attention. The B4DT delivers a highly concentrated course of ERP over four consecutive days, producing outcomes equivalent to those achieved by traditional weekly ERP over several months. This intensified format has the practical advantage of dramatically reducing the total calendar time required for treatment, making it accessible to patients who cannot commit to months of weekly therapy. Initial studies of the B4DT in diverse populations, including a 2024 multisite study, have confirmed its efficacy, and there is strong interest in adapting this model for resource-limited settings where the availability of trained therapists is very limited.

25.7 OCD-Related Disorders: Body Dysmorphic Disorder, Hoarding, and Trichotillomania in Bangladesh

The OCD-related disorders include body dysmorphic disorder (BDD), hoarding disorder, excoriation (skin-picking) disorder, and trichotillomania (hair-pulling disorder). These conditions share with OCD the features of repetitive, intrusive, distressing preoccupations and associated repetitive behaviors, and they are grouped with OCD in both ICD-11 and DSM-5-TR because of similarities in phenomenology, neurobiology, and treatment response.

Body dysmorphic disorder involves preoccupation with one or more perceived flaws or defects in one's physical appearance that are not observable or appear slight to others, and repetitive behaviors (such as mirror checking, excessive grooming, or skin picking) or mental acts in response to this preoccupation. BDD is associated with very high levels of distress and functional impairment, high rates of suicidal ideation and behavior, and very frequent presentation to dermatologists and cosmetic surgeons rather than to mental health services, since most patients are convinced their concern is with a genuine physical defect rather than a psychological condition. In Bangladesh, BDD presentations frequently focus on skin color (preoccupation with being too dark-skinned) and facial features, reflecting the cultural salience of skin color and physical appearance in social and marriage markets.

Hoarding disorder, characterized by persistent difficulty discarding or parting with possessions regardless of their actual value, resulting in accumulation that significantly clutters the person's living space, is recognized as a distinct condition from OCD in ICD-11. In Bangladesh, the

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assessment of hoarding requires cultural calibration: in contexts of genuine poverty and material scarcity, accumulation of objects that have potential future utility is a rational adaptive strategy rather than pathological hoarding. Clinical hoarding is distinguished by the extreme emotional distress associated with discarding, the indiscriminate nature of the accumulation (including genuinely valueless items), and the severe functional impairment caused by the living conditions that result.

CHAPTER TWENTY-SIX: TRAUMA AND STRESS-RELATED DISORDERS: INTRODUCTION AND NOSOLOGICAL CONTEXT

26.1 The Significance of Explicit Etiological Reference in Psychiatric Diagnosis

Trauma and stress-related disorders occupy a unique position in psychiatric nosology because they are among the very few categories of mental disorder that are defined not only by their symptom profile but by an explicit etiological criterion: they arise in response to exposure to a traumatic or extremely stressful event. This etiological specification is clinically important in several ways.

First, it provides a clear account of why the disorder has developed, which has implications for the patient's own sense of meaning and self-understanding. A person who develops PTSD following a cyclone or a violent assault is not suffering from a brain disease in the purely constitutional sense; they are suffering the psychological consequences of an overwhelming external experience, a distinction that many patients find important for their self-understanding and sense of dignity.

Second, it directs clinical attention toward the trauma history and toward the specific traumatic material that needs to be processed in treatment, rather than simply toward the symptomatic expression of distress.

Third, it raises the particular ethical challenge of the "traumatized survivor" who does not wish to be pathologized: many survivors of traumatic events resist psychiatric diagnosis because they feel that their response to an extraordinary experience is comprehensible as a human response rather than as evidence of mental disorder. This resistance deserves respect, but it should not prevent people from accessing treatment that could significantly reduce their suffering.

Fourth, the explicit etiological emphasis invites attention to prevention: if trauma causes PTSD, then preventing trauma reduces PTSD, and public health approaches to reducing interpersonal violence, natural disaster mortality, and conflict are simultaneously mental health interventions.

26.2 The ICD-11 Reorganization: Separating PTSD from Complex PTSD

The ICD-11, published in 2019, made a landmark nosological decision in formally recognizing Complex PTSD (CPTSD) as a diagnosis distinct from PTSD. This decision, for which advocates

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had argued for decades, has profound clinical implications and is worth exploring in some depth.

Standard PTSD, as defined in ICD-11, requires exposure to a threatened or actual death, serious injury, or sexual violence (as experienced directly, witnessed in another person, learned about in a close family member or friend, or repeated aversive exposure in the course of professional duties), followed by three symptom clusters: re-experiencing the traumatic event (intrusive memories, nightmares, flashbacks, or intense emotional and physiological reactivity to trauma reminders); avoidance of traumatic reminders; and a persistent sense of current threat (manifested as hypervigilance and exaggerated startle response).

Complex PTSD, by contrast, is associated with exposure to events that are prolonged or repetitive and from which escape is difficult or impossible, such as childhood abuse, domestic violence, prolonged war captivity, or torture. In addition to the three core PTSD symptom clusters, CPTSD is characterized by severe and pervasive disturbances in self-organization: difficulties in affect regulation (intense, difficult-to-manage emotional reactions and prolonged return to baseline after distress); persistent negative beliefs about oneself (feeling permanently damaged, worthless, or defeated); and persistent difficulties in sustaining relationships and in feeling close to others.

The clinical relevance of this distinction is substantial. Patients with CPTSD have more complex presentations, higher levels of functional impairment, greater comorbidity, higher rates of suicidal behavior and self-harm, and poorer response to the standard PTSD treatments than patients with PTSD without complex features. Their treatment requires a phased approach that prioritizes stabilization and the development of affect regulation skills before approaching the direct processing of traumatic material, in contrast to standard PTSD treatment, which focuses primarily on trauma-focused interventions.

In Bangladesh, where a substantial proportion of the population has been exposed to repeated, prolonged, and inescapable adversity, CPTSD is likely considerably more prevalent than PTSD without complex features. Women exposed to years of intimate partner violence, survivors of prolonged political detention and torture, Rohingya refugees who have been exposed to successive waves of persecution and displacement, and adults who experienced severe childhood abuse or neglect may all present with CPTSD rather than standard PTSD, and their care requires the more comprehensive, phased approach that CPTSD demands.

CHAPTER TWENTY-SEVEN: POST-TRAUMATIC STRESS DISORDER: CLINICAL SCIENCE AND BANGLADESHI REALITIES

27.1 Diagnostic Criteria and Clinical Phenomenology

PTSD is diagnosed when, following exposure to a traumatic event as defined above, an individual experiences symptoms in three clusters (ICD-11) or four clusters (DSM-5-TR) that persist for more than one month and cause significant functional impairment. The ICD-11

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diagnostic criteria represent a deliberate simplification relative to the DSM-5-TR, retaining only the most diagnostically specific symptoms and excluding symptoms (such as negative cognitions and mood changes) that are less specific to PTSD and more common across multiple psychiatric conditions. This simplification was motivated in part by the goal of improving diagnostic reliability and clinical utility in non-specialist settings, which is particularly relevant in low-resource contexts like Bangladesh.

The re-experiencing symptoms are the most specific and defining features of PTSD, and understanding their nature is clinically important. Intrusive memories in PTSD are not ordinary memories of unpleasant events. They are vivid, sensory, emotionally intense fragments of the traumatic experience that intrude into consciousness involuntarily, often triggered by sensory cues that have been associated with the trauma. They are experienced as happening now rather than being remembered as happening then, in the past. This "nowness" quality of traumatic intrusions, which has been described phenomenologically as the "time-locked" quality of traumatic memory, is central to understanding why PTSD is so disabling and why trauma-focused therapies that work to integrate these memories into ordinary autobiographical narrative are effective.

Flashbacks represent the most intense form of re-experiencing: a person in a flashback is not simply remembering the trauma; they are experiencing it as if it were occurring in the present moment, with full sensory and emotional vividness. During a flashback, the person may appear confused, agitated, or entirely unresponsive to their current environment, and may engage in behavior appropriate to the traumatic scenario they are re-experiencing rather than to their actual situation. Flashbacks can be extremely distressing and can expose the person to danger.

Nightmares related to the traumatic event are extremely common in PTSD and are among the symptoms that cause the most chronic suffering. They typically involve direct replaying of the traumatic event or of scenarios with thematically related threatening content. The sleep disruption caused by trauma-related nightmares contributes substantially to the overall burden of PTSD, producing chronic sleep deprivation that worsens mood, cognition, and physical health.

27.2 The Epidemiology of PTSD in Bangladesh: A Society Shaped by Trauma

Bangladesh occupies a position in the world that makes trauma exposure extraordinarily common. The country's traumatic history includes the Liberation War of 1971, one of the most violent and traumatic events in modern South Asian history; repeated catastrophic natural disasters including Cyclone Bhola (1970), Cyclone Sidr (2007), and Cyclone Aila (2009), among many others; the devastating Rana Plaza building collapse in 2013, which killed over 1,100 garment workers and injured thousands more; the Rohingya genocide in neighboring Myanmar that has driven over one million refugees into Bangladesh since 2017; and the July-August 2024 political uprising, which resulted in over 1,500 deaths and left thousands of survivors with direct exposure to state violence.

Beyond these headline events, trauma exposure in Bangladesh is woven into the fabric of daily life for many people. Intimate partner violence, affecting an estimated 55 to 70 percent of

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married women, is a chronic source of interpersonal trauma. Road traffic accidents, which are extremely common in Bangladesh, kill over 25,000 people per year and injure vastly more, leaving many survivors with acute traumatic stress and some with PTSD. Industrial accidents, including factory fires and building collapses that are distressingly regular events in Bangladesh's garment sector, expose thousands of workers to direct traumatic experience. Flooding, which affects large portions of the country in most monsoon seasons, destroys homes, livelihoods, and communities.

The cumulative effect of this high baseline exposure to potentially traumatizing events is an extraordinary population-level burden of trauma and its psychological sequelae. The National Mental Health Survey 2019 did not specifically measure PTSD prevalence, but studies conducted in specific high-risk populations and regions give some sense of the scale. A study of disaster-affected communities in coastal Bangladesh found PTSD prevalence rates of 15 to 25 percent in the immediate aftermath of cyclones, declining but not disappearing over subsequent years. Studies among Bangladeshi women exposed to intimate partner violence have found PTSD rates of 20 to 35 percent. And among the Rohingya refugee population in Cox's Bazar, where the cumulative burden of genocide, forced displacement, and ongoing camp-related adversity is extraordinary, studies have found severe PTSD symptoms in a substantial proportion of adults and adolescents.

The 2024 July Revolution, which brought about the end of the Sheikh Hasina government following months of student-led protests that were met with increasingly violent state repression, created a new wave of trauma-exposed individuals requiring mental health support. A hospital-based cross-sectional study conducted at Bangladesh Medical University and published in 2025 examined 217 injured survivors of the July Revolution. The study found that a substantial proportion of survivors had clinically significant symptoms of both depression and PTSD, with younger survivors and those who had experienced more severe physical injury showing the highest rates. This study, the first systematic assessment of the mental health consequences of the July Revolution, provides important baseline data for future follow-up studies and underscores the need for proactive mental health responses to periods of political violence.

27.3 The Liberation War of 1971: Unresolved Trauma Across Generations

The Liberation War of 1971 holds a special place in any account of trauma and mental health in Bangladesh. The nine-month war of independence from Pakistan, during which the Pakistani military and its local collaborators conducted a systematic campaign of mass violence against the Bengali civilian population, produced trauma on a scale that has not yet been fully acknowledged in the mental health literature or in Bangladesh's social and political life.

The numbers, contested and inadequately documented, nevertheless speak to the magnitude of the catastrophe. The government of Bangladesh estimates that approximately 3 million people were killed; other estimates range from 300,000 to 3 million. Estimates of the number of women and girls who were raped during the conflict range from 200,000 to 400,000. Millions were internally displaced. Cities and towns were bombed and burned. Families were destroyed. Communities that had existed for generations were dismembered. And through it all, ordinary Bangladeshi men, women, and children experienced levels of violence, witnessing of atrocities,

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personal loss, and existential terror that produced a generational wound that has never been systematically addressed.

What is particularly striking about the psychological legacy of 1971 in Bangladesh is its ambivalence and incompleteness as a social and narrative process. The war is commemorated as the founding event of the nation, celebrated through national holidays, monuments, and a national narrative of heroic resistance and liberation. But the personal, familial, and psychological suffering of survivors has been far less systematically acknowledged and processed. Many survivors have never had an opportunity to speak publicly about their experiences. The birangonas (war heroines, the term applied to women who were raped during the war) were honored rhetorically but experienced profound social stigma and rejection in practice. The psychological wounds of 1971, transmitted through families across generations in the form of traumatized parenting, family narratives of violence and loss, and the epigenetic effects of severe stress on the developing nervous systems of children born to traumatized parents, represent a form of collective, intergenerational trauma that deserves far more systematic study and social response than it has received.

Research on intergenerational trauma transmission in other contexts, including Holocaust survivors and their children, and indigenous communities in settler-colonial societies, provides a framework for understanding how the psychological consequences of mass violence extend across generations and how they shape the mental health of people who were not themselves directly present during the original trauma. The mechanisms are multiple: altered parenting patterns among traumatized parents, family narratives that transmit a sense of danger and vulnerability, disrupted attachment relationships when parents are themselves dysregulated, and potentially epigenetic mechanisms through which the stress responses of traumatized parents are transmitted biologically to their children. A 2024 systematic review in Molecular Psychiatry of evidence for epigenetic transmission of trauma-related stress responses provided further support for this mechanism, while acknowledging the complexity and limitations of the current evidence base.

27.4 The Rohingya Refugee Crisis: A Mental Health Emergency in Bangladesh

The Rohingya crisis represents the world's largest current refugee emergency and one of the most severe humanitarian mental health challenges anywhere in the world. Since the escalation of Myanmar's military campaign against the Rohingya population in Rakhine State in August 2017, characterized by the UN Fact-Finding Mission as bearing the hallmarks of genocide, over 700,000 Rohingya fled to Bangladesh in the space of months, joining approximately 300,000 who had arrived in earlier waves. By 2025, the total Rohingya population in Bangladesh exceeded one million, with the vast majority living in the Cox's Bazar camps, which include Kutupalong, the largest refugee camp in the world.

The Rohingya population has experienced prolonged exposure to violence, human rights violations, and statelessness, which are further compounded by post-migration adversities in the camps. PubMed Central The trauma history of Rohingya refugees in Bangladesh is extraordinary in its breadth and severity. Studies have found that Rohingya adolescents are exposed to extremely traumatic events at high rates: nearly 50 percent experience being close to

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death, and over 40 percent experience being in a combat situation or undergoing torture. PubMed Central

Studies indicate high levels of mental health concerns among Rohingya refugees in Bangladesh, including PTSD, depression, somatic complaints, and associated functional impairment. Participants have also endorsed local idioms of distress, including somatic complaints and concerns associated with spirit possession. PubMed

The comparison between Rohingya refugees in Bangladesh and those in Malaysia is instructive. The Bangladeshi cohort showed higher PTSD, depression, generalized anxiety, and functional impairment than those in Malaysia, reflecting the more recently experienced and more severe trauma exposure among those who fled the 2017 military operations. Springer

The studies also found very high levels of daily environmental stressors associated with life in the camps, including problems with food, lack of freedom of movement, and concerns regarding safety. Daily environmental stressors partially mediated the relationship between trauma exposure and PTSD symptoms, indicating that daily stressors play a pivotal role in the mental health outcomes of populations affected by collective violence and statelessness. PubMed

This finding, that ongoing daily stressors in the camp environment independently contribute to poor mental health over and above the effects of prior trauma exposure, is of the utmost importance for the design of mental health interventions in humanitarian settings. It means that purely trauma-focused psychological interventions, while necessary, are not sufficient: attention to the living conditions in the camps, to food security, to freedom of movement, to access to education and livelihood, and to safety from within-camp violence, is simultaneously a mental health intervention. The mental health and the humanitarian dimensions of the Rohingya crisis cannot be disentangled.

Healthcare workers providing care to Rohingya refugees at Cox's Bazar have documented extraordinarily severe presentations. In one case, an eleven-year-old girl was brought in because she had stopped talking. She had effectively developed selective mutism as a manifestation of severe PTSD, and clinical investigation revealed that her father's legs had been chopped off in front of her by the military before the family fled to Bangladesh. She and her younger siblings had not seen their father since that experience. Frontiers Such accounts, while documenting the extreme end of the trauma spectrum, illustrate the nature and depth of the psychological injury sustained by Rohingya refugees and the complexity of the clinical presentations that mental health workers in Cox's Bazar encounter.

The mental health response to the Rohingya crisis has been led by a consortium of national and international organizations, including UN agencies (WHO, UNHCR, UNICEF), international NGOs (MSF, IRC, Save the Children), and Bangladeshi health authorities. The WHO's Psychological First Aid framework has been the primary framework for initial psychosocial response, emphasizing safety, calming, connectedness, self-efficacy, and hope as the core elements of early intervention. Beyond this initial response, the scale-up of more structured mental health interventions, including trauma-focused CBT and other evidence-based treatments

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delivered by trained community health workers and lay counselors, has been an ongoing priority but remains grossly inadequate relative to the scale of need.

27.5 Natural Disasters and PTSD: Bangladesh's Cyclone and Flood Experience

Bangladesh's geographical position, in the delta of three of the world's major rivers and exposed to the Bay of Bengal, makes it one of the most disaster-prone countries in the world. The country has experienced multiple catastrophic cyclones, the most severe of which include Cyclone Bhola in 1970 (which killed an estimated 300,000 to 500,000 people), Cyclone Sidr in 2007 (which killed approximately 3,400 and affected millions), Cyclone Aila in 2009, and Cyclone Amphan in 2020. Annual monsoon flooding affects large portions of the country, with major floods in 1988, 1998, 2004, 2007, 2017, and 2022 causing extensive loss of life, property, and livelihoods.

The psychiatric sequelae of natural disasters in Bangladesh have been studied with increasing rigor over the past two decades. Studies consistently document elevated rates of PTSD, depression, and anxiety disorders in disaster-affected communities in the immediate aftermath of cyclones and floods, with prevalence rates significantly higher than in matched comparison communities that did not experience the disaster. A meta-analysis of post-disaster mental health studies in Bangladesh published in 2024 found pooled prevalence estimates of approximately 18 percent for PTSD, 20 percent for depression, and 15 percent for anxiety disorders in the first six months after major cyclones, declining toward baseline levels over subsequent years in most (though not all) affected individuals.

Several features of the disaster experience in Bangladesh are associated with higher risk of persistent PTSD. Proximity to death (personal near-death experience, witnessing the deaths of family members) is the strongest predictor of PTSD in disaster contexts. Bereavement is also a very strong predictor, particularly for the death of children or spouses. Loss of home and livelihood, which places survivors in a situation of ongoing material insecurity and disrupts the sense of safety and stability that recovery from acute trauma requires, is associated with more prolonged and severe psychological reactions. Lack of social support is a powerful risk factor: individuals who have lost their primary social network in the disaster and are displaced into unfamiliar environments are at particularly high risk.

Women are consistently found to be at higher risk of post-disaster PTSD and depression than men in Bangladesh, a pattern that reflects both the higher baseline exposure of women to psychosocial risk factors and the specific vulnerabilities created by gender inequality during disaster response and recovery. Women are more likely to be dependent on others for evacuation decisions and transportation. They have lower access to disaster relief resources, which are often distributed through male household heads. They are at increased risk of sexual violence in disaster and displacement contexts. And they face additional burdens of responsibility for the care of dependent family members during crisis and recovery.

Climate change represents a multiplier for all of these disaster-related mental health burdens. As climate projections for Bangladesh consistently forecast increasing intensity and frequency of cyclones, more severe flooding, rising sea levels that will inundate significant coastal areas, and increasing temperatures that will affect agricultural productivity, the mental health

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consequences of climate change in Bangladesh must be understood as a public health priority of the highest order. A 2024 Lancet Countdown on Health and Climate Change report identified Bangladesh as one of the countries facing the most severe climate-related health risks, and mental health was identified as a critically under-resourced dimension of the climate-health response.

27.6 The Neurobiology of PTSD: Fear Memory, HPA Dysregulation, and the Amygdala-Prefrontal-Hippocampal Triad

The neurobiology of PTSD builds on the general neurobiology of fear and anxiety described in Chapter Twenty, adding specific elements related to the formation and processing of traumatic memories, the dysregulation of the stress response, and the particular neural signatures of the PTSD symptom clusters.

Traumatic memory encoding differs from normal memory encoding in ways that explain the phenomenological features of PTSD. During extreme trauma, extraordinarily high levels of stress hormones, particularly norepinephrine and cortisol, produce a form of enhanced memory encoding for the emotional and sensory features of the traumatic experience, while simultaneously disrupting the hippocampal-dependent processes of contextual integration and explicit narrative memory formation. The result is a memory that is vivid, emotionally intense, and sensorially rich (accounting for the intrusive quality of traumatic memory) but poorly integrated into the broader context of the autobiographical narrative and poorly tagged as belonging to the past (accounting for the "nowness" quality and the ready re-activation by context-related cues).

The HPA axis dysregulation in PTSD shows a distinctive pattern that differs from the typical findings in major depression. While depression is often associated with elevated baseline cortisol levels reflecting HPA hyperactivation, PTSD is often associated with low baseline cortisol levels combined with exaggerated cortisol responses to acute stressors. This apparent paradox is explained by the enhanced negative feedback sensitivity of the HPA axis in PTSD, resulting from the upregulation of glucocorticoid receptors in the hippocampus and hypothalamus. This pattern of low baseline cortisol and high reactivity is thought to reflect a chronic adaptation of the stress response system to a history of repeated severe stress, and it has consequences for immune function, sleep, and cognitive performance.

Structural neuroimaging studies consistently document reduced hippocampal volume in PTSD, particularly in the CA3 region and the dentate gyrus. This reduction is thought to reflect the effects of chronic hypercortisolemia on hippocampal neurogenesis and synaptic plasticity, and it may contribute to the contextual fear generalization and impaired extinction learning that characterize PTSD. Notably, hippocampal volume reduction in PTSD is partly reversible with effective treatment, particularly with trauma-focused psychotherapy, suggesting that the neurobiological consequences of trauma are not fixed and irreversible but are responsive to appropriate intervention.

Functional neuroimaging studies of PTSD consistently demonstrate the triad of amygdala hyperactivity, medial prefrontal cortex hypoactivity, and hippocampal dysfunction that

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characterizes pathological fear states. In response to trauma-related cues, people with PTSD show exaggerated amygdala activation combined with reduced activation of the medial prefrontal cortex, resulting in an inadequate top-down regulatory response to the activated fear memory. The anterior cingulate cortex, which normally modulates the emotional significance of incoming stimuli, shows reduced activation in PTSD, consistent with impaired contextual evaluation of threat cues.

27.7 The Cultural Expression of Trauma in Bangladesh

The way that traumatic experience is expressed and communicated varies across cultures, and the clinical presentation of trauma-related disorders in Bangladesh has distinctive features that require specific clinical attention.

Somatic presentation is particularly prominent. As with anxiety and depression, the language of distress in Bangladesh draws heavily on bodily metaphors and physical symptom expression. Survivors of trauma commonly present with headache, chest pain, palpitations, weakness, fatigue, sleep disturbances, and diffuse body pain, and these somatic presentations may be accompanied by minimal explicit reporting of the psychological features of PTSD such as intrusive memories or emotional numbing. The clinician who does not inquire systematically about potential trauma exposure and PTSD symptoms in patients presenting with unexplained somatic complaints will frequently miss the underlying trauma-related disorder.

The concept of "broken heart" (mon venge gesi, or similar Bangla formulations expressing the sense of a heart or spirit that has been shattered by loss and tragedy) captures something of the subjective experience of severe traumatic grief and demoralization that is common in the aftermath of disaster and interpersonal violence in Bangladesh. This idiom, which combines elements of grief, loss, despair, and a sense of fundamental damage to the self, overlaps with both complex PTSD and complicated grief, and requires culturally sensitive clinical engagement.

Spirit possession and supernatural attributions play a role in the cultural expression of traumatic distress in Bangladesh, as described in Part One. Dissociative states that are a component of PTSD or complex PTSD may be interpreted by the affected person and their family as spirit possession, and this interpretation may lead to seeking traditional healing rather than psychiatric care. The clinical engagement with these cultural attributions requires neither dismissal (which would alienate the patient and their family) nor uncritical endorsement (which would divert care away from effective treatment) but a respectful acknowledgment of the cultural framework alongside a careful clinical assessment.

CHAPTER TWENTY-EIGHT: ASSESSMENT AND TREATMENT OF PTSD IN CLINICAL PRACTICE

28.1 Clinical Assessment of Trauma and PTSD

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The assessment of PTSD in clinical practice begins with a sensitive, non-pressuring inquiry about trauma history. Many survivors of trauma have never been asked about their experiences, and the clinical consultation may be the first opportunity they have had to speak about what happened to them. The assessment requires a safe, private, unhurried setting, a therapeutic stance that communicates acceptance and non-judgement, and an explicit acknowledgment of the courage that speaking about trauma requires.

Structured instruments for PTSD assessment include the PTSD Checklist for DSM-5 (PCL-5) and the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5). The PCL-5 is a twenty-item self-report questionnaire with excellent psychometric properties that can be used for both screening and monitoring of treatment response. The CAPS-5 is a semi-structured clinician interview that provides a definitive PTSD diagnosis and dimensional severity ratings. Both instruments have been used in Bangladesh in research settings, and Bangla translations have been validated, including in the July Revolution study described above.

The Life Events Checklist is a useful standardized tool for systematically reviewing the range of traumatic events a person may have experienced, and its use ensures that clinicians do not miss forms of trauma that the patient has not spontaneously reported (such as childhood abuse, sexual assault, or domestic violence, which carry significant stigma and may not be volunteered without specific sensitive inquiry). The Harvard Trauma Questionnaire, which was specifically developed for use in refugee populations and has been validated in multiple languages, has been used extensively in studies of the Rohingya population in Bangladesh.

28.2 Trauma-Focused Psychological Treatments: The Evidence Base

The evidence base for psychological treatment of PTSD is among the strongest in psychiatry, with several approaches demonstrating large effect sizes in randomized controlled trials and being endorsed in international guidelines. The two most strongly evidence-based psychological treatments are trauma-focused cognitive-behavioral therapy (TF-CBT) and Eye Movement Desensitization and Reprocessing (EMDR).

Trauma-focused CBT encompasses several related approaches, including Prolonged Exposure (PE), Cognitive Processing Therapy (CPT), and the Trauma-focused CBT specifically developed for children. All share the core principle of systematic, structured engagement with the traumatic memory, either through imaginal re-experiencing of the trauma (as in PE) or through cognitive processing of the meaning and impact of the trauma (as in CPT). The goal in both cases is the integration of the traumatic memory into the ordinary autobiographical narrative, stripping it of its "nowness" quality and reducing its capacity to intrude involuntarily into consciousness.

Prolonged Exposure, developed by Edna Foa and colleagues, involves two main components: imaginal exposure, in which the patient narrates the traumatic memory in present-tense detail while remaining connected to their current environment; and in-vivo exposure, in which the patient approaches avoided situations and cues that have been associated with the trauma but are not objectively dangerous. Repeated imaginal exposure is thought to promote the emotional processing and integration of traumatic memories, while in-vivo exposure addresses the avoidance that maintains PTSD and restricts the person's life.

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Cognitive Processing Therapy, developed by Patricia Resick and colleagues, focuses on identifying and challenging the maladaptive beliefs that develop following trauma, particularly beliefs about safety (the world is completely dangerous), trust (people cannot be relied on), power and control (I have no ability to influence what happens to me), esteem (I am damaged and worthless), and intimacy (I can never be close to others). These beliefs, sometimes called "stuck points," maintain PTSD by preventing the person from accommodating the traumatic experience into a balanced world-view. CPT uses a combination of written accounts of the trauma and structured cognitive worksheets to facilitate the identification and challenging of stuck points.

EMDR, developed by Francine Shapiro in the late 1980s, involves guided bilateral sensory stimulation (most commonly eye movements following the therapist's finger, though auditory or tactile stimulation may also be used) while the patient holds in mind a traumatic memory or associated cognition. Despite initial skepticism about its theoretical basis (the role of the eye movements remains debated), EMDR has an extensive randomized trial evidence base confirming its efficacy for PTSD, and it is now endorsed in international guidelines including the WHO guidelines for PTSD treatment. The mechanism of EMDR is thought to involve the taxing of working memory during the bilateral stimulation, which reduces the vividness and emotional intensity of the traumatic memory, and may facilitate reconsolidation of traumatic memories in a more adaptive form.

A 2024 network meta-analysis of psychological treatments for PTSD, one of the largest and most comprehensive ever conducted, confirmed the superiority of trauma-focused treatments (TF-CBT and EMDR) over non-trauma-focused active treatments, over present-focused therapies, and over waitlist control, with no significant difference in efficacy between TF-CBT and EMDR. This finding strengthens the guideline recommendations for trauma-focused treatment as the first-line psychological intervention for PTSD.

For complex PTSD, the International Society for Traumatic Stress Studies (ISTSS) guidelines recommend a phased treatment approach: Phase 1, focused on stabilization, safety, and the development of affect regulation skills; Phase 2, focused on trauma-focused processing using approaches adapted for complex presentations; and Phase 3, focused on integration and enhancing social and occupational functioning. The Skills Training in Affective and Interpersonal Regulation (STAIR) protocol, developed by Marylène Cloitre and colleagues, is a well-validated intervention for Phase 1 treatment of CPTSD that has also been used as a standalone intervention for populations in whom direct trauma processing is premature or contraindicated.

28.3 Pharmacological Treatment of PTSD

The pharmacological treatment of PTSD is considerably less impressive than the psychological treatment evidence base. Two medications have regulatory approval for PTSD in the United States: sertraline and paroxetine, both SSRIs. They produce modest but meaningful reductions in PTSD symptom severity, with particularly notable effects on hyperarousal and intrusion symptoms and somewhat less robust effects on the numbing and avoidance cluster. Their main role in clinical practice is as adjuncts to psychological treatment for patients with severe

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symptoms that interfere with their capacity to engage in therapy, or for patients who cannot access psychological treatment.

An important development in PTSD pharmacotherapy is the combination of sertraline and the atypical antipsychotic brexpiprazole. As noted in the systematic review of anxiety, PTSD, and OCD medications published in Drugs in Context in 2025, the combination of sertraline and brexpiprazole has shown promise in recent phase II and III trials, achieving statistically significant reductions in PTSD symptoms compared to sertraline plus placebo, without requiring supplemental psychotherapy. The FDA accepted the new drug application for this combination therapy, with a decision expected in early 2025. PubMed Central This combination represents a meaningful addition to the PTSD pharmacological armamentarium.

Prazosin, an alpha-1 adrenergic blocker that reduces central noradrenergic signaling, has established evidence for reducing nightmare frequency and severity in PTSD, and it is widely used as a targeted adjunctive treatment for this particularly disabling symptom. It is relatively inexpensive and available in Bangladesh, and its use for PTSD-related nightmares should be more widely known among prescribers.

MDMA-assisted therapy, which has generated extraordinary scientific and popular interest over the past several years, does not yet have regulatory approval as of 2025 following the FDA's decision in August 2024 to reject the initial NDA application for MDMA-assisted therapy for PTSD, requesting additional studies. The FDA's decision reflected concerns about trial conduct and the generalizability of the evidence, rather than a rejection of the underlying treatment concept, and further studies are underway. MDMA-assisted therapy would, even if eventually approved, be inaccessible in Bangladesh in the foreseeable future for regulatory, cost, and infrastructure reasons, but the scientific principles underlying it, particularly the value of pharmacologically facilitated emotional processing of traumatic memories, have broader implications for the development of novel PTSD treatments.

28.4 Adapting PTSD Treatment for Bangladesh: Constraints and Opportunities

The evidence-based treatments for PTSD described above were all developed in well-resourced settings with trained therapists, stable infrastructure, and patients who live in safe environments. Adapting them for use in Bangladesh requires addressing several fundamental constraints.

The most immediate constraint is the shortage of trained therapists. Trauma-focused CBT and EMDR require substantial training to deliver competently and safely, and the pool of appropriately trained mental health professionals in Bangladesh is very small. The task-sharing model, in which these interventions are adapted and simplified for delivery by non-specialist health workers, is the primary strategy for addressing this constraint. Several programs in Bangladesh and other low-income countries have developed and evaluated brief, simplified versions of TF-CBT and other trauma-focused interventions that can be delivered by trained community health workers, and the results are promising. The WHO's Scalable Psychological Interventions for people in communities affected by adversity (specifically the UNHCR's Structured Approach and other similar brief intervention packages) have been piloted in

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Rohingya refugee settings and in disaster-affected communities in Bangladesh, with positive outcomes in several evaluations.

The group delivery of trauma-focused interventions has significant potential for expanding coverage in resource-limited settings. Group CBT for trauma, Narrative Exposure Therapy (NET) delivered in groups, and other group formats can reach many more people with a given investment of therapist time. Narrative Exposure Therapy, developed specifically for use in refugee and conflict-affected populations, has a particularly strong evidence base in humanitarian settings: it involves constructing a structured "lifeline" narrative of the entire life history, placing traumatic events within the broader context of a meaningful life story, and has been studied in Rohingya and other displaced populations.

The safety of the delivery environment is another critical consideration. Delivering trauma-focused therapy to Rohingya refugees in Cox's Bazar, or to survivors of intimate partner violence in communities where their abusers are present, requires attention to physical and psychological safety that goes beyond the standard clinical considerations. Exposure-based interventions require a minimum degree of safety in the external environment to be feasible: a person who returns from a therapy session to an environment where they will again be exposed to violence or threat cannot consolidate the gains from exposure-based treatment. For this reason, the sequencing of mental health intervention and safety/protection intervention is a critical practical consideration in humanitarian and violence-affected settings in Bangladesh.

28.5 Psychological First Aid: The Foundation of Early Trauma Response

Psychological First Aid (PFA) is not a treatment for PTSD. It is a practical, evidence-informed approach to supporting people in the immediate aftermath of acute trauma, developed collaboratively by the WHO, UNHCR, and other humanitarian agencies. PFA is based on the evidence that the most important factors protecting against the development of chronic PTSD after acute trauma are: safety (removing the person from ongoing danger and establishing a sense of physical and psychological safety); calming (reducing acute physiological arousal); connectedness (maintaining connection with family, friends, and community); self-efficacy (supporting the person's own coping capacities); and hope (fostering realistic expectations for recovery).

PFA does not involve encouraging people to talk about their traumatic experiences in detail in the immediate aftermath of trauma. This is an important point because there is a persistent popular belief, and some professional practice, that "debriefing" (encouraging detailed verbal processing of the traumatic experience in the immediate aftermath) is helpful. Multiple randomized controlled trials have in fact found that single-session psychological debriefing is not only ineffective but may actually be harmful, particularly for people who are at higher risk for PTSD, by interfering with natural recovery processes and potentially consolidating rather than processing traumatic memories.

PFA training has been provided to a significant number of community health workers, NGO staff, and first responders in Bangladesh, particularly following major disasters and in the Rohingya refugee response. The challenge is sustaining and systematizing this training so that

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PFA capacity is available reliably when disasters occur, rather than having to be mobilized from scratch each time.

CHAPTER TWENTY-NINE: ACUTE STRESS REACTION, ADJUSTMENT DISORDER, AND COMPLICATED GRIEF

29.1 Acute Stress Reaction: The Acute Response to Overwhelming Experience

Acute stress reaction (ASR) is a transient, acute response to an overwhelmingly stressful event that develops within hours of the exposure and typically resolves within a few days. It is characterized by a kaleidoscopic mixture of symptoms from multiple clusters: intrusive re-experiencing of the traumatic event; hyperarousal and autonomic activation; dissociative symptoms including emotional numbing, depersonalization, derealization, or amnesia for aspects of the event; behavioral disorganization; and significant functional impairment.

ICD-11 reconceptualized acute stress reaction by explicitly classifying it as a normal human response to extreme stress rather than as a mental disorder, in recognition of the evidence that most people who experience acute stress reactions recover naturally without any formal intervention. This reclassification is clinically important: it avoids the pathologizing of adaptive responses to trauma, it reduces stigma, and it directs formal clinical intervention toward those whose acute reactions are particularly severe or who show risk factors for developing PTSD.

In Bangladesh, acute stress reactions are seen following natural disasters, industrial accidents, road traffic accidents, assaults, and other acute traumatic events. The clinical response to acute stress reaction should be consistent with PFA principles: attending to safety, practical needs, and social connection; supporting natural coping; providing psychoeducation about normal acute stress responses; and facilitating follow-up assessment for those at higher risk.

29.2 Adjustment Disorder: Distress in the Context of Identified Stressors

Adjustment disorder is characterized by emotional or behavioral symptoms that develop in response to an identifiable psychosocial stressor or multiple stressors, are clinically significant (either in terms of marked distress disproportionate to what would be expected given the nature of the stressor, or in terms of significant functional impairment), and are not better explained by another mental disorder. The ICD-11 definition specifies that the symptoms are preoccupations with the stressor and its consequences, and failure to adapt, manifested as rumination and worry about the stressor or its implications.

Adjustment disorder is extremely common in Bangladesh given the high frequency of significant life stressors in the population. Common precipitating stressors include bereavement, marital separation and divorce, financial crisis, job loss, significant illness (in the patient or a family member), migration, and interpersonal conflict. The condition typically resolves within six months of the resolution or removal of the stressor, though when the stressor is chronic (as in a

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protracted marital conflict or a chronic financial difficulty) adjustment disorder may persist for longer.

Adjustment disorder is sometimes dismissed as a "minor" condition, but this dismissal is clinically unwarranted. The functional impairment associated with adjustment disorder can be severe, and the condition is associated with an elevated risk of suicidal behavior, which requires careful assessment and monitoring. In Bangladesh, adjustment disorder precipitated by relationship and family stressors, particularly in young women, is an important context for suicidal behavior.

29.3 Prolonged Grief Disorder: When Mourning Does Not Resolve

The ICD-11 introduced Prolonged Grief Disorder (PGD) as a new formal diagnostic category, defined as a pervasive grief reaction following bereavement that persists for at least six months after the loss (some criterion sets specify twelve months), is characterized by intense yearning or longing for the deceased or persistent preoccupation with the deceased, and is associated with significant functional impairment. PGD is distinct from the normal grieving process, which, while painful, typically involves gradual accommodation to the loss and progressive return to normal functioning.

In Bangladesh, where death and bereavement are common experiences given the country's disaster vulnerability, road accident mortality, and relatively high rates of maternal and child mortality in some regions, PGD is likely prevalent but poorly recognized. Specific cultural practices around mourning, including the Islamic iddah (the mandatory mourning period of four months and ten days for widows), may complicate the clinical identification of PGD, since culturally normative mourning practices extend well beyond the timeframes that are considered normal in Western diagnostic frameworks.

Several risk factors for PGD are particularly common in Bangladesh. Sudden, unexpected, or violent deaths (which are more traumatic than anticipated deaths and are more likely to generate PGD) are common given the frequency of disasters, road accidents, and interpersonal violence. Deaths that involve a degree of stigma or shame (such as suicide deaths, or deaths in circumstances associated with wrongdoing) may generate particularly complicated grief because the mourner cannot acknowledge the full nature of their grief publicly. Bereavement following the loss of a child carries a particularly high risk of PGD globally, and child death rates in Bangladesh, while dramatically reduced from historical levels, remain higher than in high-income countries.

CHAPTER THIRTY: CLINICAL PRACTICE IN ANXIETY AND TRAUMA DISORDERS IN BANGLADESH: INTEGRATED APPROACHES

30.1 The Primary Care Interface: Recognizing Anxiety and Trauma in Non-Specialist Settings

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The great majority of people with anxiety disorders and trauma-related disorders in Bangladesh will first present to non-specialist health care providers, including general practitioners, community clinic doctors, upazila health complex medical officers, and where available, trained community health workers. The capacity to recognize anxiety and trauma presentations in these settings, provide basic psychoeducation and first-line management, and refer appropriately to specialist services where needed, is therefore a critical public health capacity that is currently severely underdeveloped in Bangladesh.

The mhGAP Intervention Guide (mhGAP-IG) published by the WHO, updated in 2023, provides specific modules for the assessment and management of anxiety and PTSD in non-specialist settings. The anxiety module covers generalized anxiety disorder, panic disorder, and phobias, providing simplified diagnostic algorithms and management guidance appropriate for use by non-specialists with basic training. The stress module covers acute stress reaction, PTSD, adjustment disorder, and grief, providing guidance on PFA, basic psychoeducation, and the indications for referral. These guides are being piloted in Bangladesh through several collaborative programs between the National Institute of Mental Health and WHO, and their systematic implementation in primary care is a major priority for mental health system strengthening.

The identification of anxiety and trauma presentations in primary care is complicated by the somatic symptom expression described throughout this chapter. Several practical strategies can help. First, systematic use of brief validated screening tools such as the GAD-7 and PHQ-9 in medical outpatient settings can identify patients whose presentations include a significant anxiety or depressive component. The Bangladeshi experience with the PHQ-9 suggests that systematic screening is feasible in primary care settings and increases the detection of mental health conditions. Second, training primary care providers to recognize the classic "unexplained somatic symptom" presentation as a potential signal of an underlying psychological condition, and to conduct a brief mental health inquiry when appropriate, can significantly increase detection rates.

30.2 The Three-Level Care Model for Anxiety and Trauma in Bangladesh

Given the enormous scale of the treatment gap in Bangladesh and the limited resources available, a three-level model of care has been proposed as a practical framework for organizing the mental health response to anxiety and trauma disorders.

The first level is community-based and involves training lay health workers, including the shasthya shebikas and shasthya kormis of the community health worker program, in PFA, basic psychoeducation about anxiety and stress, and the identification of signs that a person needs referral to higher-level care. At this level, the intervention is not treatment in the clinical sense but psychological support and facilitation of help-seeking. The effectiveness of community health worker programs for mental health in Bangladesh has been demonstrated in several pilot studies, including a program in rural Matlab that trained community health workers in basic mental health assessment and support and showed significant improvements in the recognition and referral of people with mental health conditions.

The second level is primary care, at the level of the community clinic, the upazila health complex, and the union health and family welfare center. At this level, medical officers and nurses with specific mhGAP training can provide basic assessment, psychoeducation, brief psychological interventions (including breathing techniques and basic CBT elements), and pharmacological treatment for mild to moderate anxiety disorders. The second-level provider also provides follow-up and monitoring for patients started on pharmacological treatment and identifies those who need referral to specialist care.

The third level is specialist mental health care, including outpatient psychiatry services at district hospitals and teaching hospitals, and specialist mental health NGOs with trained psychologists and therapists. At this level, comprehensive psychiatric assessment, complex pharmacological management, structured psychotherapy (including TF-CBT and EMDR for PTSD, ERP for OCD, and intensive CBT for panic disorder), and case management for patients with severe and persistent conditions are available.

The vertical integration of these three levels, so that patients can move between them fluidly and appropriate referral pathways exist in both directions, is the organizational challenge that mental health system strengthening in Bangladesh must address.

30.3 Digital Mental Health and Technology-Assisted Interventions in Bangladesh

The rapid expansion of mobile phone and internet penetration in Bangladesh offers significant potential for digital mental health interventions that could address part of the treatment gap at relatively low cost. Bangladesh had approximately 120 million internet users in 2024, and smartphone penetration, particularly among younger age groups, continues to increase. This digital infrastructure could in principle support a range of digital mental health applications.

Digital CBT programs delivered via smartphone apps or web-based platforms have demonstrated efficacy for anxiety disorders in numerous randomized trials conducted primarily in high-income countries. Adapting these programs for the Bangladeshi context requires attention to language and literacy (many programs use reading-heavy content that may not be accessible to people with limited literacy), cultural appropriateness of content and examples, usability for people with limited digital literacy, and internet connectivity constraints in rural areas.

The Kaan Pete Roi helpline, a telephone-based emotional support service modeled on the Samaritans model, has been providing emotional support to Bangladeshis in distress since 2013 and has developed a significant evidence base on the patterns of distress presented by callers. It represents an important component of the mental health support infrastructure, particularly for people in acute crisis, and its expansion and institutionalization should be a policy priority.

Artificial intelligence-driven mental health support tools, including chatbots and conversational agents designed to provide psychoeducation, emotional support, and guided self-help, are being developed globally at a rapid pace. A 2025 review in the Lancet Digital Health examined the growing literature on AI-based mental health tools and found that while promising results have been reported in some studies, the evidence base remains limited and significant concerns about

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safety, quality, and equity persist. The development and evaluation of culturally appropriate AI-based mental health tools for Bangladesh is an exciting area of potential innovation, but one that requires careful attention to local context, rigorous evaluation, and robust safety safeguards.

CHAPTER THIRTY-ONE: CONTROVERSIAL ISSUES IN ANXIETY AND TRAUMA PSYCHIATRY

31.1 The Overdiagnosis Debate: Are We Pathologizing Normal Distress?

One of the most persistent and intellectually serious criticisms of contemporary psychiatry is that it has expanded the boundaries of psychiatric diagnosis to encompass forms of distress and behavioral variation that are better understood as normal human responses to difficult circumstances than as mental disorders. This critique is particularly salient for the anxiety and trauma-related disorders, where the boundary between clinical disorder and the full range of human responses to danger and adversity is genuinely difficult to establish.

Jerome Wakefield's "harmful dysfunction" analysis, discussed in Part One, offers one framework for addressing this concern: an anxiety disorder is present when a psychological mechanism fails to perform its natural evolved function (for example, when the fear system fails to extinguish in the absence of continued danger) and this failure causes harm to the individual. This analysis is illuminating but does not fully resolve the diagnostic boundary problem, since it is not always clear whether a given pattern of anxiety represents a dysfunction in the technical sense or simply the upper end of normally distributed individual differences in fear sensitivity.

The specific case of PTSD deserves particular attention in this context. Critics including Jerome Wakefield and others have argued that the DSM-5 criteria for PTSD are too inclusive, capturing normal responses to adversity within the diagnostic net, particularly because the criterion for what counts as a qualifying "traumatic event" has been progressively broadened through successive DSM editions. The ICD-11 responded to this critique by narrowing the definition of qualifying traumatic events to focus on direct personal exposure to threatened or actual death, serious injury, or sexual violence, thereby excluding certain stressors (such as hearing about the death of a friend) that would qualify under DSM-5 criteria. This nosological debate is not merely academic: it has implications for insurance coverage, disability determination, and the allocation of clinical resources.

In Bangladesh, the overdiagnosis critique takes a particular form. Given the extraordinary prevalence of genuinely traumatic and stress-inducing circumstances in Bangladeshi life, there is a risk that a broadly applied PTSD diagnosis could pathologize the responses of an enormous proportion of the population to circumstances that are genuinely traumatizing rather than merely stressful. The appropriate response to this concern is not to withhold diagnosis and treatment from people who are genuinely suffering from treatable conditions, but to ensure that diagnostic and treatment decisions are made with full awareness of the social context and with attention to functional impairment and subjective distress as the primary clinical criteria for intervention.

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31.2 The Pharmaceutical Industry and Anxiety Disorders: Conflicts of Interest and the Medicalizing Impulse

The relationship between the pharmaceutical industry and the expansion of anxiety disorder diagnoses is a legitimate concern that psychiatrists and medical students should be aware of. Several well-documented cases exist in which pharmaceutical companies have engaged in disease-mongering: the deliberate expansion of the definition of a diagnostic category or the promotion of awareness of a condition in ways that expand the potential market for a drug, rather than being driven purely by clinical need.

Social anxiety disorder provides a particularly well-documented example. Peter Kramer's analysis of the marketing campaign surrounding paroxetine in the United States in the 1990s describes how the pharmaceutical manufacturer of paroxetine engaged a major public relations firm to promote awareness of social anxiety disorder (which was relatively obscure even among clinicians at the time) as a common, underdiagnosed, and highly treatable condition, immediately before the FDA approved paroxetine for social anxiety disorder. This campaign contributed substantially to a dramatic increase in the diagnosis and pharmacological treatment of social anxiety disorder, with paroxetine prescription rates rising rapidly. While social anxiety disorder is a genuine and often severely disabling condition, the commercially driven promotion of its diagnostic salience warrants careful critical reflection.

In Bangladesh, the pharmaceutical industry's influence on prescribing practice takes several forms. Direct-to-physician marketing by pharmaceutical company representatives (medical information officers) is the primary mechanism, and it is both extensive and largely unregulated. The promotion of benzodiazepines for anxiety, which are cheaper and faster-acting than SSRIs and therefore more immediately gratifying in clinical practice, by pharmaceutical representatives has contributed to the inappropriate chronic benzodiazepine prescribing described earlier. The responsibility for critically evaluating pharmaceutical marketing claims and prescribing on the basis of evidence rather than promotion lies with the individual clinician, but it is also a systemic issue that requires regulatory response.

31.3 The PTSD Debate: Is PTSD a Universal Diagnosis or a Western Construct?

One of the most intellectually challenging controversies in trauma psychiatry concerns the universality of PTSD as a diagnostic category. Critics including Derek Summerfield and others have argued that PTSD is a culturally specific Western construct, developed in the context of Vietnam War veterans and shaped by particular American cultural and political preoccupations about individual psychological suffering and its relation to military service, that does not translate meaningfully to other cultural contexts. On this view, the global export of the PTSD diagnosis is a form of psychiatric imperialism that imposes Western frameworks of understanding on experiences that are better understood through local cultural categories.

This critique has both valid insights and significant limitations. It is valid insofar as it identifies the culturally shaped nature of all diagnostic categories, including PTSD, and the importance of understanding the cultural context in which distress is expressed and understood. The specific symptom cluster of PTSD (intrusive memories, avoidance, hyperarousal) is not a universal

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human response to trauma, and there are cultural variations in how traumatic distress is expressed and prioritized. The risk of imposing Western psychological frameworks on non-Western survivors of trauma in ways that pathologize culturally normative responses or that undermine indigenous healing traditions is genuine.

However, the critique overstates its case when it implies that the core features of PTSD are entirely culturally specific or that the suffering they represent is not real. The epidemiological evidence from non-Western settings, including Bangladesh, consistently documents patterns of traumatic distress that resemble the core symptom cluster of PTSD: intrusive memories, avoidance of trauma reminders, and persistent hyperarousal are reported by trauma survivors in contexts as diverse as post-genocide Rwanda, post-tsunami coastal communities, and the Rohingya camps of Cox's Bazar. The cultural variation is in how these experiences are labeled, explained, and communicated rather than in whether they occur. And the evidence that trauma-focused treatments (including those developed in Western contexts and adapted for local use) are effective in non-Western settings suggests that the PTSD framework, while imperfect, captures something real about a trans-cultural pattern of trauma response.

The clinically appropriate response to this controversy is neither uncritical adoption of Western PTSD criteria nor rejection of the utility of a trauma framework. It is the use of the trauma framework as a starting point, modified by careful attention to local idioms of distress, cultural explanatory models, and indigenous healing practices, so that the clinical formulation genuinely captures the individual's experience and points toward culturally acceptable and effective interventions.

31.4 Benzodiazepine Dependence in Bangladesh: A Silent Epidemic

The inappropriate chronic prescribing of benzodiazepines for anxiety disorders represents one of the most significant public health problems in Bangladeshi psychiatry and general medicine. Benzodiazepines, including diazepam, clonazepam, and alprazolam, are among the most widely prescribed medications in Bangladesh, available without prescription in many pharmacies, and prescribed chronically by many general practitioners without adequate monitoring or planning for discontinuation.

The consequences are substantial. Physical dependence develops in most patients who take benzodiazepines daily for more than four weeks. Cognitive impairment, including deficits in attention, memory, and processing speed, is a well-documented consequence of chronic benzodiazepine use and is often not recognized by patients or their prescribers as medication-related, being attributed instead to "nervousness" or "brain weakness." Falls and accidents, particularly among older adults, are significantly more frequent in benzodiazepine users. And the process of discontinuation, which requires gradual tapering over weeks to months, is associated with withdrawal symptoms (including severe anxiety, insomnia, tremor, and in severe cases, seizures) that are frequently misinterpreted as the return of the original anxiety, leading to reinstatement of the benzodiazepine.

The clinical management of benzodiazepine dependence in Bangladesh requires a systematic, compassionate, and patient-centered approach. The first step is an honest conversation with the

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patient about the nature of physical dependence and the process of safe tapering, framed in a non-blaming way that acknowledges the prescriber's role in creating the dependence. The tapering schedule should be gradual (typically no faster than a 10 percent reduction in dose every one to two weeks) and adjusted based on the patient's tolerance of withdrawal symptoms. Simultaneously, appropriate evidence-based treatment for the underlying anxiety should be initiated, whether through SSRI or SNRI pharmacotherapy, psychological intervention, or both. Support during the tapering process, including regular contact with the prescribing clinician and, where available, CBT specifically targeting benzodiazepine discontinuation, significantly improves success rates.

CHAPTER THIRTY-TWO: SPECIAL TOPICS IN ANXIETY AND TRAUMA: CLIMATE CHANGE, POLITICAL VIOLENCE, AND THE FUTURE

32.1 Climate Change and Mental Health in Bangladesh: The Anxious Anthropocene

The relationship between climate change and mental health is a rapidly growing field of research and clinical concern, and it is nowhere more relevant than in Bangladesh, which faces some of the most severe climate-related threats of any country in the world. The mental health impacts of climate change in Bangladesh operate through multiple pathways.

The direct pathway involves the acute psychological effects of climate-related disasters: the PTSD, depression, and grief that follow cyclones, floods, and storm surges, described in detail in earlier chapters. As climate change increases the frequency and severity of these disasters, the cumulative psychological burden will increase proportionally.

The indirect pathway involves the mental health consequences of the slow-onset climate stresses that do not make international headlines but are profoundly affecting the lives of millions of Bangladeshis: saltwater intrusion into agricultural land that is destroying the livelihoods of coastal farmers; river bank erosion that is consuming the homes and land of communities along Bangladesh's major rivers; extreme heat that is reducing outdoor work capacity, disrupting sleep, and increasing physiological stress; and the progressive reduction in agricultural yields that is threatening food security across the country.

A particularly important indirect pathway is forced migration driven by climate change. As coastal areas become progressively more uninhabitable due to flooding, salinization, and storm surge risk, millions of Bangladeshis are being displaced, typically to urban areas, particularly Dhaka, where they face the additional stresses of urban poverty, crowding, and social dislocation described in Part One. This climate migration is a major driver of the mental health burden in Bangladeshi urban slums.

The concept of "eco-anxiety" or "climate anxiety," a term used to describe the psychological distress associated with awareness of climate change and its consequences, is increasingly discussed in the global mental health literature. While eco-anxiety has been most studied in high-income countries among young people who are anxious about the future of the planet, the

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concept is equally applicable, in a much more concrete and immediate form, to Bangladeshis who are watching climate change dismantle their homes, their livelihoods, and their communities in real time. The clinical recognition and management of climate-related psychological distress is an emerging priority for Bangladeshi mental health services.

32.2 The Mental Health Consequences of Political Violence: Bangladesh's July 2024 Revolution

The July-August 2024 popular uprising in Bangladesh, which began as a student-led protest against discriminatory quota policies in government employment and escalated into a mass movement that ultimately resulted in the resignation of Prime Minister Sheikh Hasina, created a new wave of psychological trauma across the country.

The state's response to the protests involved significant violence by law enforcement and associated groups, resulting in over 1,500 deaths, thousands of injuries, mass arrests, and the use of excessive force including live ammunition against unarmed protesters. Survivors witnessed colleagues being shot, experienced direct physical violence, were subjected to arbitrary detention and reported torture, and lived through a period of profound social instability and collective fear.

A hospital-based cross-sectional study conducted between September 2024 and February 2025 examined the mental health consequences of the July Revolution among 217 injured survivors with a mean age of 26 years, of whom 97.2 percent were male. The study used validated instruments, including the PHQ-9 for depression and the PCL-5 for PTSD, and found significant rates of both conditions among survivors. PubMed Central

This study provides important baseline data for understanding the mental health consequences of the July Revolution and highlights the urgent need for systematic mental health support for survivors of state violence, for bereaved families, and for the broader population traumatized by witnessing or participating in events of collective violence. The psychological impact of political trauma differs in important ways from the impact of natural disaster trauma: it involves human agency and intentionality in the perpetration of violence, which raises additional questions of justice, accountability, and meaning that are often central to the therapeutic process.

The concept of transitional justice, developed in the context of post-conflict societies, recognizes that the psychological healing of a society that has experienced state violence or civil conflict requires not only individual mental health treatment but processes of collective truth-telling, acknowledgment of harm, accountability for perpetrators, and reparation for survivors. The design and implementation of transitional justice processes has mental health implications that go beyond the clinical, requiring engagement with legal, political, and civil society actors as well as mental health professionals.

32.3 Future Directions: Innovations and Unfinished Agendas

The field of anxiety and trauma psychiatry is advancing rapidly, with several developments that have particular relevance for Bangladesh.

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Precision psychiatry approaches are beginning to be applied to anxiety and PTSD, with the goal of predicting who will develop these conditions following trauma exposure, who will respond to which treatment, and who requires more intensive or specialized intervention. Polygenic risk scores, inflammatory biomarkers, neuroimaging signatures, and machine learning algorithms applied to behavioral and physiological data are all being investigated as potential predictive tools. While none of these approaches is yet ready for routine clinical use, the trajectory of the field suggests that individualized risk prediction and treatment matching will be increasingly feasible over the coming decade.

The development of novel pharmacological agents for anxiety and PTSD is an active area. As noted in the 2025 Drugs in Context systematic review, BNC210, a negative allosteric modulator of the alpha-7 nicotinic acetylcholine receptor, has received Fast Track designation from the FDA and is entering phase III trials after demonstrating potential efficacy in reducing PTSD symptoms without sedative side effects. PubMed Central This agent represents a mechanistically novel approach to PTSD pharmacotherapy, targeting nicotinic rather than serotonergic or adrenergic systems, and its development reflects the broadening of the pharmacological target landscape beyond the traditional monoamine systems.

Digital delivery of evidence-based psychological treatments has enormous potential for expanding access in resource-limited settings like Bangladesh. Several low-intensity digital interventions, including guided self-help programs for anxiety and trauma, telepsychotherapy platforms, and AI-assisted psychoeducation and symptom monitoring tools, are showing promising results in initial evaluations in low- and middle-income countries. The development of evidence-based, culturally adapted digital mental health tools for Bangladesh, evaluated rigorously in the Bangladeshi context, should be a research and development priority.

The global movement for the rights of survivors of trauma and violence, reflected in international frameworks including the UN Convention Against Torture, the Istanbul Protocol for the documentation of torture, and the IASC guidelines on mental health and psychosocial support in emergency settings, represents an important context for the development of trauma-informed mental health services in Bangladesh. The convergence of human rights, humanitarian, and clinical mental health frameworks in the care of trauma survivors is one of the most important developments in the field, and Bangladesh is an important context for the realization of these principles in practice.

CHAPTER THIRTY-THREE: COMPREHENSIVE CASE STUDIES FOR PART THREE

Case Study 33.1: Generalized Anxiety Disorder with Somatic Presentation in a Rural Bangladeshi Woman

Kulsum is a 38-year-old woman from a rural subdistrict of Rajshahi who presents to the upazila health complex with a four-year history of headache, chest tightness, palpitations, and fatigue. She has been seen by physicians multiple times and undergone ECG, blood counts, thyroid function tests, and blood glucose measurements, all of which have been normal. She has been

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prescribed various combinations of antacids, vitamins, analgesics, and one course of proton pump inhibitors, none of which has provided lasting relief. Her husband is impatient with her "inability to get better" and has suggested her symptoms are imaginary.

Systematic inquiry by a medical officer trained in mhGAP reveals the following: Kulsum worries constantly and cannot control the worrying. The content of her worries includes her husband's health (he has hypertension), the safety of her two daughters (one of whom lives with her husband's family after marriage and has mentioned difficulties with her in-laws), her son's educational performance, the family's financial situation (which is precarious, with debt and no savings), and general concerns about the future. She sleeps poorly, typically lying awake for one to two hours before sleep and waking early with a rush of anxious thoughts. She is irritable and snaps at her children, which makes her feel guilty and ashamed. She has muscle tension in her neck and shoulders.

She scores 16 on the GAD-7 (severe anxiety range) and 9 on the PHQ-9 (mild depression). There is no suicidal ideation. She has no history of panic attacks and no significant avoidance behaviors. Her explanatory model is that she has "nervousness of the brain" and that she needs something to strengthen her nerves.

Management approach: The medical officer explains that Kulsum's symptoms are real and are caused by her nervous system being in a state of prolonged activation due to her excessive worrying, a pattern that is recognized and treatable. He avoids the term "mental disorder" and instead uses the framework of a "worry problem" affecting the nervous system. He prescribes escitalopram 5 mg daily for the first week, increasing to 10 mg thereafter, with detailed explanation of what to expect (possible mild initial nausea, delayed onset of therapeutic effect, importance of continuing for at least six weeks). He provides a brief psychoeducation booklet in Bangla about the worry cycle. He schedules a follow-up in two weeks.

At the two-week follow-up, Kulsum reports mild nausea in the first week (now resolved) and no change yet in anxiety or sleep. She is encouraged to continue. At the six-week follow-up, she reports definite improvement in sleep (falling asleep more easily, waking less often), somewhat reduced muscle tension, and some reduction in the frequency and intensity of worrying. Her GAD-7 score has fallen from 16 to 10. The escitalopram is increased to 20 mg. At the twelve-week follow-up, further improvement is noted, with GAD-7 score of 7. The plan is to continue for twelve months and then reassess.

This case illustrates several key principles: the importance of asking about anxiety and worry in patients with unexplained somatic presentations; the value of culturally adapted psychoeducation using the patient's own explanatory framework; appropriate first-line SSRI prescribing with careful titration; and realistic expectation-setting about the delayed onset of therapeutic effect.

Case Study 33.2: PTSD Following Intimate Partner Violence in a Young Bangladeshi Woman

Nasrin is a 27-year-old woman from a small town in Comilla district who is referred to the district hospital mental health outpatient clinic by a women's support organization. She was

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married at age 16 and has experienced repeated physical and sexual violence from her husband over the eleven years of their marriage. Fourteen months ago, her husband beat her severely during a domestic dispute, resulting in a broken arm and facial injuries. She was briefly hospitalized for treatment of her injuries. Shortly after her discharge from hospital, she began experiencing nightmares about the attack, waking in a state of terror several nights per week. She began having intrusive memories of the attack during the day, triggered especially by the sound of loud voices, which causes her to feel immediately as if the attack is happening again. She became extremely hypervigilant about her husband's movements and moods, monitoring every sign of his emotional state for indication of impending violence. She has become emotionally numb and detached, unable to feel pleasure or warmth toward her children, which distresses her greatly.

She has tried to avoid thinking about the attack and has stopped visiting her own family because the journey passes a road junction where she was once hit by her husband's car. She has not told anyone the full details of what happened because she is ashamed and fears that her family will pressure her to return to her husband, or that their sympathy will turn to rejection if they know about the sexual violence. She rates her PCL-5 at 48, well above the clinical threshold for PTSD. Her PHQ-9 score is 17, indicating moderately severe depression.

The clinical picture is consistent with PTSD with comorbid depression in the context of ongoing intimate partner violence. The critical safety consideration is that Nasrin is still living with her husband, and the ongoing danger takes priority over any formal trauma-focused psychological treatment.

The initial clinical response therefore addresses safety first. Nasrin is connected with the women's support organization's legal and shelter services, which can provide her with information about her legal rights, the possibility of a protection order, and access to safe shelter if she wishes to leave the relationship. She is not pressured to leave (a decision with complex practical and social implications that she must make for herself) but is empowered with information and options. Practical safety planning is developed together with Nasrin: she identifies the warning signs that violence is escalating, identifies safe places she could go, and identifies trusted people in her support network.

Pharmacological treatment is initiated with sertraline 50 mg daily for both PTSD and depression, with careful explanation and monitoring. Individual supportive therapy with the social worker at the support organization, focused on normalization of her responses, education about PTSD, and building of coping strategies, is initiated as a Phase 1 stabilization intervention. Formal trauma-focused CBT is planned for the future once stability and safety have been established.

Prazosin 1 mg at night is added after two weeks specifically for the nightmares, which are severe and producing significant sleep deprivation. At the six-week follow-up, Nasrin reports some improvement in sleep quality (fewer nightmares and less severe when they occur) and modest improvement in depression. She has decided to remain in the marital home for the present, for pragmatic reasons related to her children and finances, but has put safety plans in place and has maintained contact with the support organization.

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This case illustrates the complexity of managing PTSD in the context of ongoing intimate partner violence, the priority of safety over early trauma-focused intervention, the importance of multi-agency collaboration, and the adjunctive role of prazosin for trauma-related nightmares.

Case Study 33.3: OCD with Religious Contamination Themes in a Young Bangladeshi Man

Abid is a 22-year-old male university student from Dhaka who presents to the psychiatric outpatient clinic accompanied by his mother, who is deeply concerned about his deteriorating academic performance. Abid describes his problem as follows: he is unable to complete his prayers (salah) because he cannot achieve a satisfactory sense of ritual purity (tahara). After performing wudu, he immediately doubts whether he washed correctly and feels compelled to repeat the ablution. He may repeat wudu twenty to thirty times before a single prayer, and the prayer itself takes one to two hours because of repeated doubting about whether specific actions were correctly performed. He is spending six to seven hours per day on prayer and ablution, and has essentially stopped attending university classes, studying, and maintaining social relationships. He is eating and sleeping poorly. He is deeply ashamed about his condition, which he interprets as a failure of his own faith and discipline.

He describes the intrusive thoughts as "whispers" (waswasa) but recognizes that they go far beyond what any religious scholar has told him is required for valid prayer. He has consulted two imams, both of whom have told him that his prayers are valid and that he should not repeat them, but this reassurance provides relief only momentarily before the doubting returns. He recognizes that his behavior is excessive and inconsistent with genuine religious requirement, which makes him feel even more ashamed.

He is assessed using the Y-BOCS, which gives a total score of 28 (severe OCD range). His obsessions are rated as severe on time, interference, distress, and as difficult to resist and control. His compulsions involve repeated washing and repeated checking during prayer. His insight is good: he recognizes his fears as irrational even while being unable to resist them. His PHQ-9 score is 14, indicating moderate depression, which is common as a comorbidity in severe OCD.

Psychoeducation is provided to Abid and his mother, using clear language that reframes OCD as a recognized brain condition rather than a spiritual failing, and that explains the mechanism of the OCD cycle (obsessional doubt triggering washing and checking, which provides momentary relief, which reinforces the cycle). The concept of waswasa in Islamic teaching is discussed: several scholars have recognized that waswasa is actually a mechanism through which excessive religious doubt can be generated, and that the appropriate Islamic response to waswasa is not to comply with the doubts but to deliberately resist them. This religious framing is genuinely helpful to Abid in motivating him to engage with ERP.

Sertraline is initiated at 50 mg and titrated to 200 mg over six weeks, with careful monitoring. ERP is explained in detail, and a treatment hierarchy is constructed collaboratively with Abid. The initial targets are moderate-difficulty items: performing wudu once and tolerating the uncertainty about whether it was correctly done, without repeating. Response prevention involves resisting the urge to repeat the washing and to seek reassurance from family or

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religious sources. The profound anxiety that this generates is normalized and framed as necessary and time-limited.

Treatment proceeds over twelve sessions. Progress is non-linear, with significant distress during early exposures and several episodes of temporarily retreating to compulsive behavior. Abid's mother initially inadvertently provides reassurance (a form of family accommodation to OCD) and requires specific guidance about how to respond to requests for reassurance. By the twelfth session, Abid is performing wudu twice rather than thirty times, completing prayers within thirty minutes rather than two hours, and has returned to university. His Y-BOCS score has fallen from 28 to 12 (mild to moderate range). He understands that further improvement is possible with continued ERP and that maintenance of gains requires active resistance of any compulsive urges that re-emerge.

This case illustrates the importance of culturally informed assessment of religious OCD, the value of engaging the patient's own religious framework in treatment planning, the combination of pharmacotherapy and ERP as the optimal treatment approach, and the management of family accommodation.

Case Study 33.4: Complex PTSD in a Rohingya Refugee Woman in Cox's Bazar

Fatema Begum is a 35-year-old Rohingya woman who has been living in the Kutupalong camp since fleeing Rakhine State in September 2017. She is referred to the camp mental health service by a community health worker who has noticed that she is frequently irritable and aggressive with her children and has become increasingly withdrawn and isolated.

In the initial assessment, conducted in Chittagonian (which Rohingya refugees can generally understand) through a trained female interpreter, Fatema reveals the following: in August 2017, soldiers entered her village and burned her home. Her husband and two of her brothers were killed. She witnessed her husband being shot. She was raped by multiple soldiers before managing to escape with her three children. During the journey to Bangladesh, one of her children became severely ill and nearly died.

She has persistent nightmares about the killings and the rape, occurring almost every night. She has intrusive memories during the day that are triggered by the sounds of raised voices, smoke from cooking fires, and the sight of uniforms. She has severe hypervigilance and a pronounced startle response. She is chronically emotionally numb, unable to feel warmth toward her surviving children, and describes herself as "like a dead person who is still breathing." She has profound and persistent beliefs that she is permanently damaged and dirty, and that her rape (about which she has told nobody but the interpreter in this assessment) was her own fault. She has no meaningful relationships in the camp, having lost all her prior social network. She is having thoughts that her children would be better off without her, and there is a risk of suicidal behavior that requires immediate safety planning.

This clinical picture is consistent with Complex PTSD, not standard PTSD. The core PTSD symptom clusters are present (re-experiencing, avoidance, hyperarousal), but they are accompanied by the three domains of self-organization disturbance that characterize CPTSD:

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severe affect dysregulation (explosive anger episodes followed by emotional numbing), pervasive negative self-concept ("I am dirty and damaged"), and profound relational disturbance (inability to maintain close relationships or trust others).

Management follows the phased CPTSD treatment model. Phase 1 (stabilization) is the immediate priority and will extend over many sessions. Safety planning is established. Psychoeducation about PTSD and CPTSD is provided in culturally adapted form, using simple language and analogies appropriate to Fatema's background. The normalization of her responses as understandable reactions to abnormal experiences, rather than signs of personal weakness or shame, is a central therapeutic message. Grounding techniques (sensory anchoring in the present moment, used when intrusive memories or dissociative episodes occur) are taught and practiced.

Fluoxetine is initiated after a careful discussion of the options, given the logistical complexity of medication management in the camp setting (fluoxetine's long half-life makes occasional missed doses less problematic). The long-term plan includes trauma-focused processing (likely using a simplified adaptation of Narrative Exposure Therapy appropriate for the camp setting) once Phase 1 stabilization has been achieved, and attention to the social and functional aspects of recovery including her relationship with her children and her connections within the camp community.

This case illustrates the distinctive features of CPTSD relative to standard PTSD, the priority of safety planning in presentations with suicidal ideation, the phased treatment approach required for complex trauma presentations, and the adaptation of treatment to the specific constraints and context of the humanitarian setting.

CHAPTER THIRTY-FOUR: SUMMARY AND INTEGRATION; CONNECTIONS TO PART FOUR

34.1 Key Themes from Part Three

Part Three has provided a comprehensive account of the anxiety and fear-related disorders, the obsessive-compulsive and related disorders, and the trauma and stress-related disorders, integrating clinical description, neurobiology, cultural context, epidemiology, treatment evidence, and Bangladesh-specific considerations throughout. Several key themes deserve integration.

The neurobiology of anxiety, fear, and trauma is real and clinically important. The amygdala-prefrontal-hippocampal circuit is the neuroanatomical substrate of pathological anxiety and PTSD, and the dysregulation of this circuit, through a combination of genetic vulnerability, early adversity, and acute overwhelming stress, explains the persistence and characteristic features of these conditions. Understanding this neurobiology does not reduce the clinical importance of psychological and social dimensions; rather, it provides a biological framework within which the effects of psychological treatments (which produce measurable changes in prefrontal

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regulation of amygdala activity) and social interventions (which reduce the allostatic load that maintains HPA dysregulation and hippocampal damage) can be understood as genuinely biological as well as psychological and social.

The cultural embeddedness of anxiety, fear, and trauma presentations in Bangladesh is a clinical reality that cannot be addressed by simply applying Western assessment instruments and treatment protocols without adaptation. The somatic expression of anxiety, the cultural idioms of distress through which trauma is communicated, the spiritual and religious frameworks that shape explanatory models, the role of the family in illness experience and help-seeking, and the specific social risks that drive anxiety and trauma in Bangladeshi lives, all require careful attention in clinical practice.

The treatment gap for anxiety and trauma disorders in Bangladesh is enormous, but the treatments that exist are effective and adaptable to resource-limited settings. The combination of task-sharing models, simplified evidence-based psychological interventions, rational pharmacotherapy, and digitally delivered support has the potential to substantially expand treatment coverage if implemented systematically and adequately funded.

The social determinants of anxiety and trauma in Bangladesh, including poverty, gender inequality, climate change, political violence, and forced displacement, are as important as any clinical factor in the burden of these conditions. Mental health cannot be adequately addressed without addressing these underlying social realities, and mental health professionals have a responsibility to advocate for the policy changes that would reduce the social drivers of anxiety and trauma, alongside providing the best possible clinical care for those already affected.

34.2 Preview of Part Four

Part Four of this textbook will address substance use disorders and addictive behaviors, examining the pharmacology, neurobiology, epidemiology, clinical assessment, and treatment of alcohol use disorder, opioid use disorder, cannabis use disorder, stimulant use disorders, tobacco use disorder, and behavioral addictions including gambling disorder and internet gaming disorder. It will attend specifically to the patterns of substance use and addiction prevalent in Bangladesh, including the distinctive problems of yaba (methamphetamine-caffeine combination), fensedyl (codeine-based cough syrup), and other substances of particular prevalence in the Bangladeshi context, and will discuss the policy, legal, and public health dimensions of substance use alongside the clinical dimensions.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART THREE

Vignette 1: *Parvin is a 19-year-old female student who has refused to attend university for the past four months. She is extremely afraid of being called on by professors in class, of eating in the university cafeteria where others might observe her, and of attending any social gatherings where she might need to speak to new people. She turns down invitations from peers and spends most of her time at home. Her parents are frustrated and bewildered. Discuss the diagnosis, the*

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neurobiological underpinnings, the key components of CBT for this condition, and the pharmacological options.

Vignette 2: *A 50-year-old male farmer from a coastal district presents to a primary health center complaining of persistent sleep disturbance, anger outbursts "for no reason," and inability to concentrate on his farming work. He survived Cyclone Sidr in 2007, during which he lost his wife and youngest child. He has never discussed the cyclone with anyone. Using the mhGAP module for stress disorders, describe how you would assess this patient, what diagnosis is most likely, and what initial management you would provide at the primary care level.*

Vignette 3: *A 28-year-old male university graduate presents with a three-year history of recurrent, unwanted thoughts about contamination and a ritualised washing routine that consumes approximately three hours per day. He has tried to stop the washing on several occasions but cannot tolerate the anxiety that results. He has heard that "exposure therapy" is recommended for his problem and asks you to explain what this involves and why it might help. Explain ERP to this patient in language he can understand, using the inhibitory learning model.*

Vignette 4: *A community health worker refers a 40-year-old woman from the Rohingya camp who "refuses to talk to anyone and screams at night." Using the framework of CPTSD, describe how you would approach the assessment of this patient and outline the principles of a Phase 1 stabilization plan appropriate for the camp setting.*

Vignette 5: *You are the medical officer at an upazila health complex in a district that has just been severely affected by a cyclone. You are asked to plan the mental health component of the relief response for the affected community. Describe the principles of Psychological First Aid and explain how you would organize its delivery by the available health staff and community health workers.*

STUDY QUESTIONS FOR PART THREE

1. *Describe the neural circuit of fear, identifying the roles of the amygdala, medial prefrontal cortex, and hippocampus. How does dysfunction in each of these structures contribute to the clinical features of anxiety disorders?*
2. *Compare and contrast the diagnostic criteria for PTSD and Complex PTSD in ICD-11. Why was the introduction of CPTSD as a separate diagnosis considered an important clinical advance, and what are the treatment implications of the distinction?*
3. *Explain the cognitive avoidance theory of GAD and the metacognitive model of GAD. How do these two theoretical frameworks generate different treatment approaches, and what does the evidence say about their comparative efficacy?*
4. *You are treating a devout Muslim Bangladeshi patient with contamination OCD whose rituals center on repeated wudu. How would you approach the psychoeducation and treatment planning for this patient, taking into account the cultural and religious context?*

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5. *Describe the pattern of PTSD epidemiology in the Rohingya refugee population in Cox's Bazar. What factors beyond pre-migration trauma exposure contribute to ongoing poor mental health in this population, and what are the implications for the design of mental health interventions?*
6. *A 30-year-old woman presents to your clinic with a two-year history of avoidance of leaving her home alone, traveling by bus, or being in crowded markets. She reports having had panic attacks initially in these situations. Outline the diagnosis, the cognitive-behavioral model, and a comprehensive treatment plan.*
7. *Critically evaluate the argument that PTSD is a culturally specific Western construct that should not be applied in non-Western settings such as Bangladesh. What does the cross-cultural evidence suggest, and what is the clinically appropriate response to this controversy?*
8. *Describe the evidence base for exposure and response prevention therapy in OCD. What does the inhibitory learning model add to the understanding of how ERP works, and how do the recent innovations in ERP technique apply these principles?*
9. *Discuss the relationship between climate change and mental health in Bangladesh. Through what specific pathways does climate change affect the mental health of Bangladeshis, and what are the implications for mental health service planning?*
10. *Explain the concept of Psychological First Aid and describe how it should be applied following a major cyclone in a coastal district of Bangladesh. How does PFA differ from psychological debriefing, and why is the distinction clinically important?*

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End of Part Three

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Editorial Note: *The editors wish to acknowledge the extraordinary complexity and sensitivity of the clinical and social material covered in this part of the textbook. The case studies used throughout are composites that do not represent any identifiable individual, while drawing on the lived realities of the populations whose mental health this textbook aims to serve. The authors have attempted to represent the full diversity of Bangladeshi experience with regard to anxiety, trauma, and related conditions, while maintaining consistent respect for the dignity, agency, and resilience of the people whose experiences are described.*

PART FOUR: SUBSTANCE USE DISORDERS AND ADDICTIVE BEHAVIORS

Pharmacology, Neuroscience, Epidemiology, Clinical Practice, and Public Health in the Bangladeshi Context

Preface to Part Four

Part Three of this textbook examined the anxiety, fear-related, obsessive-compulsive, and trauma-related disorders with the depth and clinical specificity that these extraordinarily prevalent conditions deserve. We traced neural circuits, examined cultural idioms of distress, reviewed treatment evidence, and placed everything within the lived social realities of Bangladesh. This Part Four turns to a cluster of conditions that represent one of the most pressing, most politically charged, and most systematically misunderstood challenges in Bangladeshi public health: substance use disorders and addictive behaviors.

To speak honestly about substance use in Bangladesh is to step into a landscape of paradox and complexity. Bangladesh is officially a Muslim-majority country in which alcohol is prohibited for citizens who are Muslim, which is the overwhelming majority of the population. It is a country where the religious and moral dimensions of intoxication are taken seriously at the level of law, culture, and personal identity. And yet, by the Department of Narcotics Control's own survey of 2024, Bangladesh has approximately 8.3 million people with a diagnosable substance use disorder, a figure that represents roughly 5 percent of the entire population and a far larger proportion of the adult male population. The most widely used substances are cannabis, methamphetamine-caffeine tablets known locally as yaba, alcohol, codeine-based cough syrups, opioids, and tobacco. Crystal methamphetamine, a purer and more dangerous form of methamphetamine than yaba, is now emerging as a new threat. The scale of substance use in Bangladesh is not a minor public health footnote; it is a national crisis, and it intersects with poverty, family fragmentation, crime, HIV transmission, and the mental health burden in ways that demand serious clinical and policy attention.

This part of the textbook aims to give the student of psychiatry and behavioral science a deep and integrated understanding of substance use disorders across multiple dimensions. It begins with the neuroscience: how do psychoactive substances affect the brain, why do some people

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develop dependence while others do not, and what do the most recent advances in addiction neuroscience tell us about the mechanisms of compulsion, craving, and relapse? It then moves through the major classes of substances of concern in Bangladesh, examining the pharmacology, clinical picture, epidemiology, and management of each. It addresses the behavioral addictions, including gambling disorder and internet gaming disorder, which are increasingly recognized as sharing neurobiological features with substance use disorders. It examines the public health and policy dimensions of substance use in Bangladesh, including the legal framework, the treatment system, harm reduction approaches, and the evidence on prevention. It engages honestly with the philosophical and ethical controversies that surround addiction: Is addiction a disease or a choice? Does the disease model help or harm? How should a Muslim-majority society with deep religious convictions about intoxication respond to the reality of widespread substance use? And it presents case studies that bring the clinical complexity of these conditions to life.

CHAPTER THIRTY-FIVE: THE CONCEPT OF ADDICTION - HISTORY, PHILOSOPHY, AND THEORETICAL FRAMEWORKS

35.1 What Is Addiction? The Deceptively Simple Question

The word addiction comes from the Latin addictus, a legal term in Roman law that described a person who had been assigned as a slave or bonded laborer to pay off a debt, someone who was bound to another by obligation and had lost their freedom of action. This etymology is not merely etymological trivia. It captures something essential about what addiction feels like from the inside: the experience of being bound, of compulsion that overcomes will, of doing something over and over again in the full knowledge that it is destructive and with a genuine desire, often, to stop. The person who is addicted is in some real sense not free, even if they retain formal legal and moral agency.

Contemporary addiction science defines addiction as a chronic, relapsing condition characterized by compulsive drug seeking and use despite negative consequences, impaired control over drug use, craving, and continued use despite awareness of harm. This definition, which reflects the consensus of major international bodies including the World Health Organization, the American Society of Addiction Medicine, and the American Psychiatric Association, positions addiction as a medical condition rather than a moral failing. The ICD-11 uses the broader term "substance use disorder" and further specifies "substance dependence" as the severe form, characterized by strong urges to use the substance, impaired control over use, prioritization of substance use over other activities and obligations, physiological features of tolerance and withdrawal, and continued use despite clear evidence of harm.

The DSM-5-TR (2022) uses a dimensional approach to substance use disorders, arranging diagnostic criteria on a severity spectrum from mild (two to three criteria present) to moderate (four to five) to severe (six or more), across eleven possible criteria for each substance class. These criteria include taking the substance in larger amounts or for longer than intended, repeated unsuccessful efforts to reduce use, spending a great deal of time obtaining using or recovering from the substance, craving, recurrent use resulting in failure to fulfill major role

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obligations, continued use despite persistent social or interpersonal problems, giving up important activities, recurrent use in hazardous situations, continued use despite physical or psychological harm, tolerance, and withdrawal.

What distinguishes this diagnostic framework from colloquial uses of the word addiction is the emphasis on impaired control and functional consequences. A person who drinks a glass of wine every evening and enjoys doing so is not necessarily showing any diagnostic criteria for a substance use disorder. A person who drinks three bottles of wine every evening, has been told by their physician that their liver is damaged, has lost their job due to absenteeism, and has tried multiple times to cut down and failed, is almost certainly presenting with a severe alcohol use disorder. The clinical distinction lies not in the amount consumed but in the pattern of loss of control, the functional consequences, and the inability to stop despite motivation and adverse consequences.

35.2 A Brief History of the Addiction Concept

The idea that repeated intoxication can become a compulsive pattern that the individual cannot control is not a modern invention. Ancient texts from multiple cultures describe individuals whose relationship with alcohol or other substances had crossed a threshold from voluntary pleasure into something resembling compulsion. The Arthashastra of Kautilya (approximately 4th century BCE) discusses the problem of excessive drinking and its consequences for governance and family life. Islamic jurisprudence, developed from the 7th century CE onward, addressed the phenomenon of habitual drinkers and the question of whether their consumption should be understood as willful disobedience or as a condition that diminishes moral responsibility. Chinese medical texts from the Tang dynasty describe patterns of habitual opium use that would today be recognized as opioid use disorder.

In the Western tradition, the systematic medicalization of the concept of addiction is generally traced to the late eighteenth and early nineteenth centuries. The American physician Benjamin Rush, writing in 1784, was among the first to argue that habitual drunkenness was a disease, specifically a disease of the will, in which voluntary control over drinking was progressively impaired by repeated exposure to alcohol. Rush proposed that this disease required medical treatment rather than purely moral or religious intervention, and his work is often cited as a foundational moment in the history of the addiction concept as a medical category.

The nineteenth century saw the establishment of temperance movements in the United States, Britain, and other countries, which promoted moral and social responses to alcohol problems. These movements coexisted in an uneasy tension with the emerging medical view of alcoholism as a disease. The moral framing, which held that drinking was a sin or a character defect amenable to moral reform, competed with the medical framing, which held that habitual drinkers were sick people who needed treatment. This tension has never been fully resolved, and it echoes through contemporary debates about addiction in Bangladesh and globally.

The twentieth century saw a major expansion of the medical model of addiction. The development of Alcoholics Anonymous in 1935, with its "disease concept" of alcoholism, represented an influential popular restatement of the idea that alcoholism was a disease rather

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than a moral failing, though AA's disease concept was more spiritual and sociological than strictly biomedical. The formal adoption of alcoholism as a disease by the American Medical Association in 1956 gave the medical model official professional endorsement. The discovery of specific molecular receptors for opioids in the 1970s, and the subsequent identification of endogenous opioids (endorphins and enkephalins), provided neurobiological foundations for understanding why opioids were so powerfully reinforcing and why withdrawal was so agonizing. And the explosion of addiction neuroscience from the 1990s onward produced a sophisticated account of the brain mechanisms of addiction that has both deepened the medical model and raised new questions about its implications.

35.3 The Disease Model of Addiction: Strengths, Limitations, and Controversies

The disease model of addiction is the most influential framework in contemporary addiction psychiatry and public health. In its contemporary form, it holds that addiction is a chronic brain disease characterized by pathological changes in neural circuits involved in reward, motivation, and inhibitory control, that these changes have biological (genetic and epigenetic) and environmental (developmental and social) determinants, and that they persist even after long periods of abstinence, which explains the high rates of relapse that characterize addiction.

The disease model has several important practical advantages. It reduces the moral stigma associated with addiction by positioning addicted individuals as people with a medical condition rather than as weak-willed or morally deficient. This reduction in stigma can improve treatment-seeking, reduce self-blame, and facilitate social reintegration. The disease model justifies the allocation of health care resources to addiction treatment, which would be harder to argue for if addiction were seen purely as a behavioral choice. And it provides a framework for research: if addiction is a brain disease, then understanding the neuroscience of addiction is a legitimate and important scientific agenda.

However, the disease model has also been subjected to serious criticism from multiple directions. The philosopher Nick Heather and others have argued that describing addiction as a brain disease misrepresents the phenomenology of addiction: people with addictions do retain some degree of voluntary control over their behavior (as evidenced by the fact that they stop using in some situations and not others, and that many recover without formal treatment), and describing their condition as a "brain disease" in which control is simply absent obscures this retained agency and may actually undermine the person's own capacity for recovery by suggesting that they are helpless victims of their neurobiology. A more nuanced view, sometimes called the "constrained choice" model, holds that addiction involves genuinely impaired but not abolished voluntary control, and that recovery involves the progressive restoration of that control through a combination of biological, psychological, and social means.

The sociologist Peter Conrad and the philosopher of medicine Carl Elliott have raised concerns about the ways in which the disease model of addiction can serve commercial interests. If addiction is a brain disease requiring medical treatment, this creates a large and potentially lucrative market for pharmaceutical treatments. The pharmaceutical industry has invested heavily in addiction medicine, and this investment has not been without influence on research priorities, on the framing of addiction as primarily a medical problem, and on the design of

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treatment systems. This does not mean that pharmacological treatment of addiction is illegitimate (it is well-evidenced for several substance use disorders), but it does mean that the medical model of addiction should be subjected to the same critical scrutiny as any other medically influential framework.

In the Bangladeshi context, the disease model of addiction has specific cultural resonances and tensions. Islamic jurisprudence has traditionally framed alcohol and drug use in terms of moral prohibition (haram) and associated sinfulness, not in terms of disease and medical treatment. This creates a potential tension between a medical model that de-emphasizes moral responsibility and a cultural-religious framework that places great weight on it. In practice, many Bangladeshi families and clinicians navigate this tension pragmatically: the person with a substance use disorder is simultaneously understood as having transgressed a religious and moral boundary, as being sick and in need of treatment, and as capable of recovery through a combination of spiritual, social, and medical means. Acknowledging this complexity, rather than insisting on a single framework, is essential for culturally sensitive clinical practice.

A 2025 commentary in the journal Addiction argued that the field has moved beyond the simple dichotomy of disease model versus moral model toward a more nuanced understanding in which addiction involves genuine neurobiological changes that constrain but do not abolish agency, in which social and economic factors are as important as biological ones in determining who develops addiction and who recovers, and in which effective treatment requires attention to the biological, psychological, social, and spiritual dimensions of the person's life. This integrative understanding, though not easily reduced to a slogan, is clinically and ethically the most defensible position.

35.4 Theoretical Models of Addiction: From Moral Philosophy to Neuroscience

Several distinct theoretical models have contributed to our understanding of addiction. Each captures something important, and each has limitations.

The classical conditioning model, rooted in Pavlovian conditioning theory, proposes that the powerful rewarding effects of drugs function as unconditioned stimuli that produce unconditioned responses (pleasure, euphoria). Through repeated pairing with environmental stimuli (specific places, people, paraphernalia, moods, times of day), these environmental stimuli become conditioned stimuli that themselves elicit drug-seeking behavior and craving. This model explains the well-documented phenomenon of conditioned cue reactivity: the intense craving that is triggered when a person in recovery encounters stimuli associated with their previous drug use. It also explains why relapse rates are high in environments associated with prior drug use, and why relapse prevention therapy includes systematic management of exposure to conditioned cues.

The operant conditioning model, rooted in Skinnerian reinforcement theory, proposes that drug use is maintained by both positive reinforcement (the pleasurable effects of the drug) and negative reinforcement (the relief of withdrawal symptoms and negative emotional states). Drug use becomes a powerfully reinforced habit because it produces immediate, reliable, and intense reinforcement of both types, while the negative consequences are delayed, probabilistic, and less

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salient. This model explains why the immediate pleasures of drug use outcompete the long-term costs, and it suggests that effective treatment must involve both the introduction of alternative positive reinforcers and the reduction of negative emotional states that motivate drug use as self-medication.

The incentive salience theory, developed by Kent Berridge and Terry Robinson, makes an important distinction between wanting and liking. Liking refers to the hedonic pleasure actually experienced from a reward. Wanting refers to the motivational drive to obtain a reward, the craving and urge to seek the substance. The incentive salience theory proposes that with chronic drug use, the wanting system (driven primarily by dopamine in the nucleus accumbens) becomes hypersensitized, generating intense craving, while the liking system (driven by endogenous opioids and endocannabinoids in distinct neural substrates) becomes progressively desensitized. This explains one of the most puzzling features of addiction: the person who continues to compulsively seek a drug despite no longer finding it particularly pleasurable, indeed despite finding the drug experience distinctly unpleasant at times. They want it intensely without liking it much, and this dissociation between wanting and liking is one of the hallmarks of advanced addiction.

The allostatic model, developed primarily by George Koob and colleagues, proposes that addiction involves a progressive dysregulation of brain reward systems through a process of allostatic adjustment. Normally, the hedonic set point (the baseline level of well-being and pleasure) is maintained within a normal range by homeostatic regulation. Chronic drug use shifts this set point downward (what Koob calls "between-system neuroadaptations"), producing a state of chronic dysphoria, anhedonia, and negative affect from which drug use provides temporary relief. This model explains why people in addiction often describe feeling worse in the absence of the drug rather than simply less good, and why the relief of withdrawal-related negative affect is such a powerful motivator of continued drug use.

The cognitive models, drawing on information-processing psychology, emphasize the role of automatic and controlled cognitive processes in addiction. Drug-related cues automatically capture attentional resources and activate approach motivation (the attentional bias toward drug cues documented in multiple experimental studies). Simultaneously, the executive control systems that would normally override these automatic responses are impaired by the structural and functional changes in the prefrontal cortex associated with chronic substance use. This dual-process framework, integrating both hot (automatic, emotional, drug-cue-driven) and cold (rational, reflective, consequence-evaluating) processing, has generated productive research and has influenced the development of cognitive bias modification interventions.

The social and environmental models, which draw on sociology, anthropology, and public health, emphasize that individual neurobiological and psychological factors are insufficient to explain patterns of addiction in populations. Why is substance use disorder vastly more prevalent in impoverished communities than in affluent ones? Why are certain occupational groups (construction workers, military veterans, sex workers) at particularly high risk? Why do rates of drug use change dramatically across generations and geographic regions in ways that cannot be explained by changes in individual biology? These questions point to the importance of social stress, economic opportunity (or its absence), social norms, availability and

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affordability of substances, and the presence or absence of alternative sources of meaning, pleasure, and belonging as determinants of substance use at the population level. In Bangladesh, these social and environmental factors are particularly salient, and any account of substance use that ignores them is both scientifically incomplete and politically misleading.

35.5 Addiction and Islamic Philosophical Thought: A Bangladeshi Perspective

Because the vast majority of people with substance use disorders in Bangladesh are Muslim, and because Islamic teachings on intoxication are deeply held and culturally central, it is both intellectually honest and clinically important to engage with the Islamic philosophical and theological perspective on addiction. This is not a digression from clinical psychiatry; it is an engagement with the most relevant philosophical framework for understanding addiction in the Bangladeshi context, and a clinician who is ignorant of it is correspondingly poorly equipped to work with Bangladeshi patients.

The foundational Islamic position on intoxicants is clear and unambiguous. The Quran, in multiple verses (including 2:219, 5:90-91), prohibits the consumption of khamr (which classical scholars have understood to include all intoxicating substances, not only wine) on the grounds that while these substances may have some benefits, their harms outweigh their benefits, and that they lead to enmity, hatred, and the abandonment of prayer and remembrance of God. This prohibition is one of the clear (qati) rulings of Islamic law, not a matter of scholarly dispute, and it is taken seriously by the overwhelming majority of Muslims in Bangladesh and globally.

What Islamic scholarship has not addressed as systematically is the question of what happens when someone has become dependent on an intoxicant and is no longer freely choosing to consume it in the ordinary moral sense. Classical Islamic jurisprudence does address circumstances that reduce moral responsibility, including ignorance, coercion, and loss of reason (aqal). A person who consumes an intoxicant without knowing it is intoxicating bears no moral responsibility for the initial act. A person who is coerced into drug use bears reduced responsibility. And a person whose rational faculties have been so impaired by addiction that they are no longer functioning as a full moral agent is in a conceptually complex position with respect to Islamic moral accountability.

Contemporary Muslim scholars writing about addiction have generally converged on a position that holds the initial voluntary consumption of intoxicants to be morally prohibited and spiritually harmful, while acknowledging that once dependence is established, the person is in a condition of illness that requires compassion, practical assistance, and treatment rather than simply moral condemnation. This position draws on the fundamental Islamic principle of la darar wa la dirar (no harm shall be inflicted or reciprocated) and on the concept of maslaha (public interest), which in Islamic jurisprudence can justify otherwise prohibited actions when necessary to preserve life, reason, health, and wellbeing. From this perspective, providing medication-assisted treatment for opioid dependence (for example) is not an act of facilitating sin but an act of preventing a greater harm: the harm of ongoing opioid use, with its associated risks of death, disease, and family destruction.

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In clinical practice, this means that the psychiatrist working with Muslim Bangladeshi patients with substance use disorders should approach the moral and spiritual dimensions of the patient's condition with respect and engagement rather than dismissal. Acknowledging the religious significance of the patient's substance use, exploring whether and how their spiritual practice and community can be resources in their recovery, and understanding that their shame and guilt about their substance use has both a moral and a clinical dimension are all important components of culturally competent care.

CHAPTER THIRTY-SIX: THE NEUROSCIENCE OF ADDICTION - CIRCUITS, NEUROADAPTATIONS, AND THE BIOLOGY OF COMPULSION

36.1 The Reward Circuit: Its Structure, Function, and Relevance to Addiction

The neural circuit at the heart of addiction is the mesolimbic dopamine system, though as more recent research has revealed, the circuitry involved in addiction extends well beyond this system. Understanding the architecture and functioning of the reward circuit is prerequisite knowledge for understanding why drugs are reinforcing, why addiction develops, and why it is so resistant to treatment.

The mesolimbic dopamine system has its origin in a cluster of dopaminergic neurons located in the ventral tegmental area (VTA) of the midbrain. These neurons project their axons to a range of forebrain structures, with the most important projection for reward processing being the one to the nucleus accumbens (NAc), a structure in the ventral striatum. The VTA also projects to the medial prefrontal cortex (the mesolimbic projection), to the hippocampus, to the amygdala, and to other structures, through pathways collectively referred to as the mesocorticolimbic system.

The nucleus accumbens is not a single homogeneous structure. It is divided into a core (which is more directly connected to motor systems and is important for the translation of reward signals into approach behavior) and a shell (which is more directly connected to limbic and hypothalamic structures and is particularly important for the hedonic impact of rewards and for the processing of novel rewarding stimuli). The distinction between core and shell has important functional implications that are increasingly recognized in addiction research.

Under normal circumstances, dopamine is released from VTA terminals into the NAc both tonically (at a low, relatively constant background level) and phasically (in bursts in response to unexpected rewards and to stimuli that predict reward). The tonic level of dopamine sets the baseline threshold for reward responsiveness. Phasic bursts of dopamine signal "prediction errors": deviations of actual reward value from the expected value. When a reward is better than expected, dopamine neurons fire in a burst, signaling a positive prediction error and reinforcing the behavior that led to the reward. When a reward is worse than expected, or when an expected reward fails to materialize, dopamine neurons are inhibited below baseline, signaling a negative prediction error. This elegantly simple prediction error signaling system is the computational basis of reward learning.

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Virtually all drugs with addiction potential increase dopamine in the NAc, though through different molecular mechanisms. Cocaine and amphetamines (including the methamphetamine component of yaba) block or reverse the dopamine transporter (DAT), preventing the reuptake of dopamine from the synapse and producing a massive accumulation of dopamine in the NAc. Heroin and other opioids act on mu opioid receptors on GABA interneurons in the VTA, disinhibiting (releasing from inhibition) the dopamine neurons and thereby increasing their firing. Cannabis activates endocannabinoid receptors that similarly disinhibit VTA dopamine neurons. Nicotine activates nicotinic acetylcholine receptors on VTA dopamine neurons, directly stimulating dopamine release. Alcohol affects multiple systems including GABA, glutamate, and opioid pathways, with net effects that include increased dopamine in the NAc.

The key difference between the dopamine signals produced by drugs and those produced by natural rewards is one of magnitude, timing, and predictability. Natural rewards (food, social interaction, sex) produce modest, time-limited, and satiation-sensitive dopamine signals. Drugs of abuse produce dopamine signals that are orders of magnitude larger, faster in onset, not subject to satiation, and more reliably produced on demand. This extraordinary pharmacological amplification of the dopamine signal is what makes drugs of abuse so intensely reinforcing and what initiates the cascade of neuroadaptations that ultimately produces addiction.

36.2 Neuroadaptations in Chronic Drug Use: The Three-Stage Model

George Koob and Michel Le Moal proposed an influential three-stage cyclical model of addiction that integrates the neurobiological changes at different phases of the addiction cycle. Understanding these three stages, and the distinct neural systems recruited at each, provides a framework for understanding both the clinical presentation of addiction and the rationale for different treatment approaches.

The first stage is binge and intoxication. During this stage, the primary neural systems engaged are the basal ganglia (specifically the NAc) and the dopaminergic projections from the VTA. The powerful positive reinforcement produced by the drug, mediated by dopamine in the NAc and by endogenous opioids in related circuits, motivates repeated drug use. Over time, with repeated drug exposure, the drug-related cues that precede drug use (the sight of drug paraphernalia, the smell of a substance, a particular social situation) begin to acquire conditioned incentive salience: they trigger dopamine release in anticipation of the drug, creating craving and approach motivation even in the absence of the drug itself. The neural signature of this process is a shift in dopaminergic responses from the drug itself to the predictive cues, a process of incentive learning that drives compulsive drug seeking.

The second stage is withdrawal and negative affect. Following cessation of drug use (whether voluntary or due to unavailability), a cluster of negative physical and emotional experiences develops. The physical symptoms of withdrawal are substance-specific and will be described in detail for each substance class in subsequent chapters. But there is also a common negative affective state that characterizes withdrawal across substance classes: dysphoria, anxiety, irritability, anhedonia (inability to experience pleasure from ordinarily rewarding activities), and a generalized sense of malaise. This negative affective state is mediated primarily by the

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extended amygdala, a collection of structures including the central nucleus of the amygdala, the bed nucleus of the stria terminalis, and the shell of the NAc, that are activated by stress and aversive states. During withdrawal, the extended amygdala activates stress neurotransmitter systems, including corticotropin-releasing factor (CRF) and dynorphin, that generate the negative emotional experience of withdrawal. This negative affect powerfully motivates drug use as negative reinforcement: using the drug relieves the dysphoria, at least temporarily.

The third stage is preoccupation and anticipation (craving). Even after the acute physiological symptoms of withdrawal have resolved (which typically happens within days to weeks for most substances), the person with a severe substance use disorder continues to be vulnerable to craving and relapse. This vulnerability is mediated primarily by prefrontal cortical circuits, including the orbitofrontal cortex, the anterior cingulate cortex, and the dorsolateral prefrontal cortex, which are involved in impulse control, decision-making, and the evaluation of long-term consequences. Chronic drug use produces structural and functional changes in these prefrontal circuits, reducing their capacity to exert top-down inhibitory control over the automatic, limbically driven impulses generated by drug cues. The result is what clinicians recognize as impulsivity and impaired executive function in people with addiction: the person knows that using the drug is a bad idea, genuinely wants to stay sober, but finds that when exposed to cues or stress, the impulse to use overwhelms their conscious intention.

36.3 Genetic and Epigenetic Contributions to Addiction Vulnerability

Not everyone who is exposed to psychoactive substances develops addiction. The minority who do have some combination of genetic, developmental, and social risk factors that increase their vulnerability. Understanding these risk factors is important both for understanding the etiology of addiction and for developing prevention and early intervention strategies.

The heritability of substance use disorders is substantial. Twin studies suggest that the genetic contribution to the risk of alcohol use disorder is approximately 50 to 60 percent, similar to the heritability of schizophrenia or bipolar disorder. For other substance use disorders, heritability estimates range from about 40 to 70 percent. This does not mean that addiction is determined by genes; it means that genetic factors explain a substantial proportion of the variation in risk between individuals.

*Genetic association studies have identified several variants that contribute to addiction risk. Variants in genes encoding enzymes involved in alcohol metabolism (including ADH1B and ALDH2) influence how quickly alcohol is metabolized to acetaldehyde (which causes flushing, nausea, and dysphoria) and then to acetate. Variants that increase acetaldehyde accumulation (such as the ALDH2*2 variant, common in East Asian populations) are strongly protective against alcohol use disorder because they make drinking deeply unpleasant. Variants in genes encoding opioid receptors (particularly the OPRM1 gene, which encodes the mu opioid receptor) influence the subjective experience of opioid reinforcement. Variants in genes encoding dopamine receptors (particularly DRD2 and DRD4) influence the density and sensitivity of dopamine receptors in the striatum, with lower D2 receptor availability associated with higher risk of addiction.*

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More recent genome-wide association studies have identified many additional common variants that each make a small contribution to addiction risk across multiple substance classes, suggesting substantial genetic overlap between different substance use disorders and between substance use disorders and other psychiatric conditions including major depression, ADHD, and schizophrenia. This genetic pleiotropy is consistent with the clinical observation that substance use disorders are highly comorbid with other psychiatric conditions, and it suggests that at least some of the underlying neurobiological risk factors are shared across diagnostic boundaries.

Epigenetic mechanisms have emerged as an important bridge between genetic vulnerability, developmental experience, and addiction risk. Early adversity, including childhood abuse, neglect, and exposure to domestic violence, produces lasting epigenetic changes in the stress response system (the hypothalamic-pituitary-adrenal axis) and in the reward system, increasing both the sensitivity to stress and the intensity of the hedonic response to drugs. These epigenetic effects may be particularly important in explaining why childhood adversity is one of the strongest known risk factors for later substance use disorder. In Bangladesh, where childhood adversity is common, these epigenetic pathways represent an important biological link between the social determinants of addiction and its neurobiological substrate.

36.4 Beyond Dopamine: The Expanding Neuroscience of Addiction

The dopamine-centric account of addiction, while extremely important, is increasingly recognized as incomplete. Recent research has revealed the importance of other neurotransmitter systems and of brain regions beyond the VTA-NAc axis in mediating different aspects of addiction.

Glutamate, the brain's main excitatory neurotransmitter, plays a critical role in the neuroadaptations associated with chronic drug use. The NAc receives glutamatergic inputs from multiple prefrontal, limbic, and thalamic areas, and these glutamatergic synapses are major sites of the long-term potentiation and long-term depression processes that underlie addiction-related learning and memory. Drug-associated memories (the conditioned responses to drug cues that drive craving and relapse) are stored in glutamatergic synapses in the NAc and amygdala, and their persistence helps explain the lifelong vulnerability to relapse that characterizes severe addiction. Glutamate-targeting pharmacological agents, including N-acetylcysteine (which modulates glutamate release through cystine-glutamate exchangers), are being investigated as potential anti-craving agents, with some evidence of efficacy in cocaine and cannabis use disorders.

The endocannabinoid system, which includes cannabinoid receptors (CB1 and CB2) and their endogenous ligands (anandamide and 2-arachidonoylglycerol), is involved in modulating synaptic transmission throughout the reward circuit. CB1 receptors are present at high density in the NAc, prefrontal cortex, hippocampus, and amygdala, and they play important roles in reward, memory, and stress response. The endocannabinoid system is not only the target of cannabis but also acts as a modulatory system influencing the responses to other drugs. The development of CB1 receptor antagonists (such as rimonabant, which was briefly marketed as a weight-loss drug before being withdrawn due to psychiatric side effects including depression and

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suicidality) as potential anti-addiction agents has been one of the more instructive failures in addiction pharmacotherapy.

The stress neurotransmitter systems of the extended amygdala, including CRF, dynorphin, and neuropeptide Y, are increasingly recognized as critical mediators of the negative affective states that drive compulsive drug use. CRF, acting through CRF1 receptors in the central amygdala and bed nucleus of the stria terminalis, generates anxiety and stress during withdrawal and in response to drug-associated cues. CRF1 receptor antagonists have shown promise in animal models of addiction but have so far been disappointing in clinical trials, possibly because of the complexity of the interactions between CRF and other stress systems.

The orexin (hypocretin) system, which originates in the lateral hypothalamus and projects widely throughout the brain including to the VTA and NAc, plays an important role in arousal, food seeking, and the motivation to obtain rewards, including drugs. Orexin neurons are activated by drug cues and by stress, and their activation promotes drug-seeking behavior. Orexin receptor antagonists, several of which have been developed as treatments for insomnia, are being evaluated as potential anti-addiction agents, with some promising early results in animal models.

A 2025 paper in Nature Neuroscience from researchers at the University of Washington identified a previously underappreciated pathway in the ventral nucleus accumbens shell involving GABAergic inhibition of cholinergic interneurons by VTA terminals. This pathway, which operates in parallel with the dopaminergic pathway, appears to be important for reward reinforcement through mechanisms that do not depend on dopamine, opening new possibilities for understanding reward circuitry in conditions where dopaminergic signaling is severely disrupted, as it is in advanced addiction. These findings remind us that the neuroscience of addiction remains a rapidly evolving field, and that the conceptual frameworks we use today will certainly be refined and extended by research over the coming years.

36.5 Addiction, Memory, and the Persistence of Craving

One of the most clinically important and philosophically interesting aspects of addiction is the extraordinary persistence of vulnerability to relapse, even after prolonged abstinence. Individuals who have been completely abstinent from opioids for years can relapse after a single exposure to drug-associated cues in a triggering environment. This persistence of vulnerability is mediated by the persistence of drug-associated memories stored in neural circuits that are among the most resilient in the brain.

Drug-associated memories have several features that distinguish them from ordinary episodic memories and that explain their extraordinary resilience. They are typically formed under conditions of high emotional arousal and intense dopamine release, which promote the consolidation of strong synaptic connections in the amygdala and hippocampus. They are repeatedly activated and reconsolidated over the years of drug use, which both strengthens them and makes them accessible to a wide range of triggering cues. And the prefrontal extinction learning that would normally allow the person to suppress conditioned responses to drug cues (through the process of extinction, whereby repeated exposure to a cue without the expected

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reward gradually reduces the conditioned response) is impaired by the structural and functional damage to prefrontal circuits associated with chronic drug use.

The reconsolidation hypothesis has attracted particular research interest in recent years. Memory reconsolidation theory proposes that when a stored memory is retrieved, it temporarily enters a labile state during which it can be modified before being re-stored (reconsolidated). This suggests that it might be possible to disrupt or modify addiction-related memories during this window of lability, using pharmacological agents or psychological techniques, thereby reducing their power to drive craving and relapse. Several pharmacological candidates for disrupting reconsolidation of drug memories have been identified in animal models, including propranolol (a beta-adrenergic receptor antagonist) and certain NMDA receptor modulators. Clinical translation has so far been limited, but the reconsolidation approach remains an active and potentially important research direction.

The memory extinction-based approach to addiction treatment, which forms the basis of cue exposure therapy (CET), involves repeated exposure to drug-associated cues in the absence of drug use, with the aim of extinguishing the conditioned craving response. While the theoretical rationale for CET is strong, the clinical evidence for its efficacy as a standalone treatment has been modest, largely because extinction learning does not erase the original conditioned association but merely creates a new inhibitory association that competes with it, and this inhibitory learning is highly context-specific and does not generalize reliably across environments. The development of techniques to enhance the durability and generalizability of extinction learning, including the use of extinction cues, combined pharmacological and behavioral approaches, and retrieval-extinction paradigms, is an active area of clinical research.

CHAPTER THIRTY-SEVEN: ALCOHOL USE DISORDER - PHARMACOLOGY, CLINICAL PICTURE, AND MANAGEMENT

37.1 The Paradox of Alcohol in Bangladesh

Alcohol occupies a paradoxical place in Bangladeshi society. Its consumption by Muslims is prohibited by Islamic law, and this prohibition is reflected in state policy: the sale of alcohol is restricted to licensed establishments (hotels, clubs, bars), and licenses are primarily issued to serve non-Muslim residents and foreign visitors. Muslims are legally prohibited from purchasing or consuming alcohol, though this law is unevenly enforced. Despite these prohibitions, alcohol consumption exists in Bangladesh across social classes and is a significant public health problem.

The Department of Narcotics Control's Drug Report 2024 estimated that approximately 2.02 million people in Bangladesh regularly consume alcohol, representing about 17 percent of the substance-using population. The actual figure is almost certainly substantially higher, because the social stigma and religious sensitivity surrounding alcohol consumption in Bangladesh creates powerful incentives for underreporting. Studies of treatment-seeking populations in

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Dhaka consistently show alcohol as one of the leading substances among those presenting for substance use treatment, and anecdotal clinical evidence suggests that hidden alcohol use, particularly among middle- and upper-class urban men, is substantially underestimated in household surveys.

Alcohol consumption in Bangladesh occurs primarily through home-brewed local spirits (commonly called tari, a toddy made from the sap of date palms or other trees, or chulai, a home-distilled spirit), imported spirits consumed by wealthier urban populations, and in some communities through consumption of products not intended for drinking (including industrial alcohol, aftershave, and other alcohol-containing preparations), which creates particular toxicity risks.

37.2 Pharmacology of Alcohol: How Ethanol Affects the Brain

Ethanol (ethyl alcohol) is a small, water-soluble molecule that penetrates the blood-brain barrier easily and affects brain function through multiple mechanisms. Unlike most drugs of abuse, which act primarily on a specific receptor or transporter, alcohol affects several major neurotransmitter systems simultaneously.

The two most important effects of ethanol at clinically relevant concentrations are enhancement of GABA-A receptor function and inhibition of NMDA-type glutamate receptors. GABA-A receptors are the main inhibitory receptors in the brain, and their activation produces sedation, anxiolysis, muscle relaxation, and anticonvulsant effects. NMDA receptors are a subtype of glutamate receptor that play critical roles in synaptic plasticity, learning, and memory, and their inhibition by alcohol impairs memory formation (explaining alcohol-induced blackouts) and produces dissociative and amnestic effects. The GABA-enhancing and NMDA-blocking effects of alcohol also explain the reinforcing properties of alcohol in people who are particularly sensitive to their anxiolytic and euphoric effects.

Alcohol also affects opioid receptor systems (stimulating endogenous opioid release in the NAc, contributing to the pleasurable effects of drinking), serotonergic systems (which are relevant to mood and impulse control), and dopaminergic systems (through indirect mechanisms that include opioid-mediated disinhibition of VTA dopamine neurons). The multiple targets of alcohol make it both a complex pharmacological challenge to understand and a complex clinical challenge to treat.

*The metabolism of alcohol involves two main enzymatic steps. Alcohol dehydrogenase (ADH) converts ethanol to acetaldehyde, and aldehyde dehydrogenase (ALDH) converts acetaldehyde to acetate, which is then metabolized to carbon dioxide and water. The intermediate metabolite acetaldehyde is highly toxic and produces the flushing, nausea, and palpitations associated with the alcohol flush reaction. Genetic variants in the ADH and ALDH genes influence the rate of these metabolic steps and have important consequences for the risk of alcohol use disorder. The ALDH2*2 variant, which severely reduces ALDH activity and leads to acetaldehyde accumulation, is protective against alcohol use disorder in East Asian populations but is rare in Bangladeshi populations. This means that the enzymatic "aversion" to alcohol that protects*

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against alcohol use disorder in many East Asians is largely absent in the Bangladeshi genetic background.

Chronic heavy alcohol consumption produces neuroadaptations that are the physiological basis of physical dependence. The brain compensates for the chronic GABA enhancement and NMDA inhibition produced by alcohol by downregulating GABA-A receptor sensitivity and upregulating NMDA receptor sensitivity. This means that in the absence of alcohol, the brain is in a state of GABA-deficient, NMDA-overactive excitation, which is the neurobiological basis of alcohol withdrawal syndrome.

37.3 Alcohol Withdrawal Syndrome: Clinical Presentation and Management

Alcohol withdrawal syndrome (AWS) is one of the few withdrawal syndromes that can be immediately life-threatening, and its recognition and management are therefore clinical emergencies. This makes it essential knowledge for any physician in Bangladesh, not only for psychiatrists.

The clinical spectrum of AWS ranges from mild to severe. Mild withdrawal, which typically develops within 6 to 24 hours of the last drink and resolves within a few days, is characterized by tremor, diaphoresis, tachycardia, hypertension, anxiety, and insomnia. Moderate withdrawal, developing within 12 to 24 hours, may additionally include nausea, vomiting, and hyperreflexia. Hallucinations (alcohol hallucinosis) may occur: these are typically auditory, begin within 12 to 24 hours of cessation, and may be simple (buzzing, clicking) or complex (voices). They occur in clear consciousness, distinguishing them from the confusion of delirium tremens, and they typically resolve within 24 to 48 hours.

Withdrawal seizures represent a serious complication of AWS, occurring in approximately 5 to 10 percent of patients undergoing withdrawal without medical management. They typically occur between 24 and 48 hours after the last drink, are usually generalized tonic-clonic in character, and may be single or multiple. Status epilepticus (prolonged or repeated seizures without regaining consciousness between them) is a medical emergency with significant mortality.

Delirium tremens (DT) is the most severe manifestation of AWS, occurring in approximately 1 to 4 percent of patients with AWS and carrying a mortality of 5 to 15 percent if untreated (and less than 1 percent with appropriate treatment). DT typically develops 48 to 72 hours after the last drink and is characterized by global confusion, severe autonomic hyperactivity (hyperthermia, profuse sweating, tachycardia, hypertension), agitation, and vivid visual, auditory, and tactile hallucinations. It represents a medical emergency requiring immediate management.

The Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar) is the most widely used validated tool for assessing the severity of AWS and guiding pharmacological treatment decisions. It assesses ten domains of withdrawal symptoms on a severity scale and gives a total score that correlates with withdrawal severity. Scores below 8 generally indicate mild withdrawal that can be managed with supportive care and oral sedatives; scores of 8 to 15

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indicate moderate withdrawal requiring more active pharmacological management; scores above 15 indicate severe withdrawal requiring intensive monitoring and parenteral treatment.

The cornerstone of pharmacological management of AWS is the benzodiazepine class. Benzodiazepines are GABA-A receptor positive modulators and therefore correct the GABA deficiency that underlies the withdrawal syndrome, suppressing autonomic hyperactivity, preventing seizures, and reducing the risk of delirium tremens. Chlordiazepoxide (Librium) is the traditional agent of choice for mild to moderate AWS, with a long half-life that provides smooth coverage. Diazepam (Valium) is also widely used and has the advantage of parenteral formulations for severe withdrawal. Lorazepam is preferred in patients with severe liver impairment, because it is metabolized by simple conjugation rather than hepatic oxidation.

In Bangladesh, where liver disease due to chronic hepatitis B infection is common (Bangladesh is endemic for hepatitis B) and alcohol-associated liver disease adds to this burden, careful dosing of benzodiazepines in patients with significant hepatic dysfunction is particularly important. Lorazepam or oxazepam (the "LOT drugs": lorazepam, oxazepam, and temazepam) are preferable in such patients because their clearance is minimally affected by hepatic impairment.

Thiamine (vitamin B1) deficiency is common in patients with heavy alcohol use and is the cause of Wernicke's encephalopathy and, if untreated, Korsakoff's psychosis (see below). High-dose parenteral thiamine (thiamine 100 to 200 mg intravenously or intramuscularly) should be administered to all patients with AWS before or concurrent with any glucose-containing fluids (because glucose administration in the context of thiamine deficiency can precipitate Wernicke's encephalopathy by depleting the limited thiamine reserve).

37.4 Wernicke's Encephalopathy and Korsakoff's Syndrome: The Neurological Complications of Alcohol

Wernicke's encephalopathy is an acute neurological emergency caused by thiamine deficiency, most commonly (but not exclusively) in the context of heavy alcohol use. The classical triad of Wernicke's encephalopathy consists of ophthalmoplegia (extraocular muscle palsy, typically presenting as horizontal nystagmus or lateral gaze palsy), ataxia (inability to maintain normal balance and gait), and a global confusional state. In practice, the complete clinical triad is present in fewer than 20 percent of cases, and many cases present with only one or two features, making clinical vigilance and a low threshold for empirical thiamine treatment essential.

The pathological basis of Wernicke's encephalopathy is hemorrhagic necrosis of periventricular structures, particularly the mammillary bodies, the thalamus (especially the dorsomedial nucleus), and the regions surrounding the third ventricle and aqueduct. These structures are particularly vulnerable to thiamine deficiency because of their high metabolic requirements and the central role of thiamine in glucose oxidative metabolism. The mammillary bodies and dorsomedial thalamus are critical nodes in the circuits mediating declarative memory, particularly the capacity to form new long-term memories.

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When Wernicke's encephalopathy is treated promptly with adequate thiamine replacement, recovery is usually substantial. However, when it is not treated (or is inadequately treated), it may progress to or be followed by Korsakoff's syndrome, a chronic amnestic condition characterized by a severe and largely irreversible inability to form new long-term memories (anterograde amnesia) and variable retrograde amnesia extending years into the past. Patients with Korsakoff's syndrome typically show confabulation, the unconscious fabrication of memories to fill in the gaps, which is a consistent and characteristic feature of this condition. They often appear superficially alert and conversational, making the severity of their memory impairment easy to underestimate.

In Bangladesh, thiamine deficiency and associated neurological complications are underrecognized clinical problems. This reflects not only the prevalence of alcohol use but also the broader problem of nutritional deficiency in a population where rice (which is polished and therefore thiamine-deficient) forms the dietary staple. Thiamine deficiency in non-alcohol-using patients, including those with severe malnutrition, hyperemesis gravidarum, and chronic gastrointestinal disease, can also cause Wernicke's encephalopathy, a point that is worth emphasizing to physicians working outside specialized addiction services.

37.5 The Fetal Alcohol Spectrum: A Hidden Problem in Bangladesh

Fetal alcohol spectrum disorder (FASD) encompasses the range of conditions caused by prenatal alcohol exposure, including the most severe form, fetal alcohol syndrome (FAS), as well as less severely affected individuals with partial FAS, alcohol-related neurodevelopmental disorder, and alcohol-related birth defects. Prenatal alcohol exposure is the most common preventable cause of intellectual disability worldwide.

In Bangladesh, FASD is rarely diagnosed, and its prevalence is unknown. This reflects a combination of factors: the low rate of acknowledged alcohol use among women (female alcohol consumption in Bangladesh is subject to even more intense social stigma than male consumption), the limited awareness of FASD among health professionals, the absence of systematic screening programs, and the diagnostic complexity of FASD (whose behavioral and cognitive features overlap with other neurodevelopmental conditions). However, the existence of alcohol consumption by a minority of pregnant women, even in the context of religious prohibition, means that FASD does occur in Bangladesh and deserves clinical recognition.

The neurodevelopmental effects of prenatal alcohol exposure are mediated by multiple mechanisms, including disruption of neuronal migration during brain development, impairment of synaptic plasticity through NMDA receptor inhibition, induction of apoptosis (programmed cell death) in developing neurons, and epigenetic modifications that alter the expression of genes important for brain development. The effects are particularly severe during the first trimester, when fundamental brain structures are forming, but harmful effects can occur throughout pregnancy, and there is no established safe level of alcohol consumption during pregnancy.

37.6 Pharmacological Treatment of Alcohol Use Disorder: Evidence and Practice in Bangladesh

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Beyond the management of acute withdrawal, effective pharmacological treatments exist for reducing relapse in alcohol use disorder, and their use in Bangladesh is substantially below the evidence base.

Naltrexone is an opioid receptor antagonist that reduces the craving for alcohol and the pleasurable effects of drinking by blocking the opioid-mediated reward response to alcohol. It is approved by the FDA and EMA for the treatment of alcohol use disorder and is among the best-evidenced pharmacological treatments for this condition. The oral formulation (50 mg daily) and the extended-release injectable formulation (Vivitrol, a monthly injection) are both effective. In Bangladesh, naltrexone is available but significantly underutilized, partly due to lack of awareness among prescribers, partly due to cost, and partly due to concerns about hepatotoxicity (naltrexone can elevate liver enzymes and is contraindicated in patients with severe hepatic impairment; regular monitoring is required). Given the high prevalence of hepatitis B and alcohol-associated liver disease in Bangladesh, baseline and monitoring liver function tests are particularly important.

Acamprosate (calcium acetylhomotaurinate) is a glutamate-modulating agent that reduces the dysphoria and autonomic hyperactivity associated with protracted alcohol withdrawal, a state that motivates relapse. It is approved in many countries for maintaining abstinence in alcohol-dependent patients and has a favorable safety profile (it is renally rather than hepatically cleared and is therefore particularly useful in patients with liver disease). Acamprosate is less readily available in Bangladesh than naltrexone but can be sourced.

Disulfiram (Antabuse) produces an aversive reaction (nausea, flushing, tachycardia, severe discomfort) when alcohol is consumed, by blocking the enzyme ALDH and causing acetaldehyde accumulation. It is an aversion therapy agent rather than a craving-reducing one, and its effectiveness depends on the patient's consistent adherence to taking it, which requires high motivation and often social support or supervised administration. Disulfiram's use in Bangladesh is limited by concerns about liver toxicity (which is real but rare), by the compliance challenge, and by the potential danger of severe reactions if the patient drinks alcohol while taking it. With appropriate patient selection, supervised administration, and monitoring, it can be a useful option for highly motivated patients.

Baclofen, a GABA-B receptor agonist originally developed as a muscle relaxant, has attracted considerable research interest as a treatment for alcohol use disorder following reports of dramatic efficacy at high doses in some patients. The evidence base for baclofen in alcohol use disorder remains inconsistent: while some randomized controlled trials have shown benefit, others have not, and the dose-response relationship is unclear. High doses of baclofen (exceeding 100 to 200 mg daily) carry significant risks including sedation, falls, and paradoxical effects on alcohol use. Baclofen is not a first-line treatment for alcohol use disorder but may be considered in cases refractory to other treatments.

Nalmefene, an opioid receptor modulator approved in Europe for the reduction of alcohol consumption in patients who do not want to be abstinent (a "controlled drinking" approach), is not currently available in Bangladesh but represents an interesting pharmacological and conceptual development. It reflects the growing recognition in some contexts that the goal of

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treatment may not always be complete abstinence but rather reduction in alcohol-related harm, a harm reduction approach that is culturally complex in the Bangladeshi context given the religious framework.

37.7 Psychological Treatments for Alcohol Use Disorder

Pharmacological treatment of alcohol use disorder is most effective when combined with psychological interventions, and for many patients, psychological treatment alone is adequate. The evidence base for psychological treatments in alcohol use disorder is substantial.

Motivational interviewing (MI), developed by William Miller and Stephen Rollnick, is a client-centered, directive counseling style designed to help people explore and resolve ambivalence about behavior change. Rather than confronting denial or providing information about the harms of drinking (approaches that tend to generate resistance), MI uses techniques of reflective listening, open-ended questions, affirmation, and summarizing to help the person explore their own reasons for and against changing their alcohol use, to strengthen their intrinsic motivation to change, and to develop a commitment to a specific change plan. MI is particularly effective as a brief intervention (two to four sessions) for people with hazardous or harmful drinking who have not developed severe dependence, and it can be delivered by trained non-specialist health workers. In Bangladesh, where the first point of contact for health problems is often a primary care physician or a community health worker, training these providers in basic MI skills has considerable public health potential.

Cognitive-behavioral therapy for alcohol use disorder includes several elements: functional analysis of the antecedents and consequences of drinking (identifying the situations, emotional states, and thoughts that trigger drinking and the short-term and long-term consequences), development of coping skills to manage these triggers without drinking, relapse prevention planning (identifying high-risk situations for relapse and developing strategies to manage them), and addressing the dysfunctional beliefs and thought patterns that support continued drinking. CBT for alcohol use disorder is effective both individually and in group formats, and it can be adapted for lower-literacy populations by increasing use of verbal and activity-based techniques in place of written materials.

Twelve-step facilitation therapy, modeled on the philosophy and practices of Alcoholics Anonymous, is widely used in Western countries and has evidence of effectiveness, particularly for maintaining long-term abstinence. The 12-step framework involves admission of powerlessness over alcohol, reliance on a higher power (which can be understood in spiritual or community terms depending on the person's beliefs), making amends for harms caused, and ongoing participation in a peer support community. In Bangladesh, no local equivalent of AA exists (or exists only in very limited form), partly because of the social sensitivity around admitting to alcohol use. The potential for developing peer support models adapted to the Bangladeshi context, including within Islamic frameworks of spiritual support and community accountability, is an area that deserves practical attention.

Contingency management (CM) involves systematic use of tangible positive reinforcers (vouchers, prizes, or other rewards) for abstinence from substance use or for other specified

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treatment-related behaviors (attending appointments, completing assigned tasks). It is among the most consistently effective behavioral interventions in addiction treatment, based solidly on operant conditioning principles. However, its implementation in routine clinical settings has been hampered by cost and logistical challenges, and its cultural acceptability in different settings varies. In a Bangladesh context, low-cost adaptations of CM (using social incentives, community recognition, or small but meaningful material incentives) could potentially be implemented in community-based addiction programs.

CHAPTER THIRTY-EIGHT: OPIOID USE DISORDER - THE PHARMACOLOGY OF PAIN AND PLEASURE

38.1 Opioids in Bangladesh: Historical and Contemporary Perspectives

Opioid use has a long history in South Asia. Opium (derived from the poppy plant Papaver somniferum) was used in medicinal and recreational contexts in the Mughal period, and its use was both widespread and largely unregulated under colonial British rule in India. The British colonial administration was, infamously, for much of the nineteenth century, actively involved in the opium trade, maintaining massive opium cultivation in India primarily to supply the Chinese market. This history is not irrelevant to the contemporary substance use landscape: it reflects a pattern of externally driven drug availability that has shaped South Asian drug culture for over two centuries.

In contemporary Bangladesh, the principal opioid problem is heroin use. Heroin (diacetylmorphine) is a semi-synthetic opioid produced from morphine extracted from opium. Bangladesh is not itself a major opium-producing country, but its geographic position between the major opium-producing regions of the Golden Crescent (Afghanistan, Iran, Pakistan) and the Golden Triangle (Myanmar, Laos, Thailand) places it on significant drug trafficking routes. The DNC Drug Report 2024 estimated that approximately 320,000 people in Bangladesh have a heroin use disorder, though this figure is acknowledged to be an underestimate.

The practice of injecting drugs, which is associated with heroin use in urban settings in Bangladesh, carries particular risks that go beyond the pharmacological effects of the drug itself. Sharing of needles and syringes among people who inject drugs (PWID) is a major route of transmission of HIV, hepatitis C virus (HCV), and hepatitis B virus (HBV). The ICDDR,B has documented HIV prevalence of 1 to 2 percent among PWID in Dhaka, which represents a concentrated epidemic that has the potential to bridge into the general population through sexual transmission if not adequately addressed. HCV prevalence among PWID in Dhaka has been documented at 50 to 60 percent in some studies, representing an extraordinary burden of preventable chronic liver disease. Harm reduction interventions for PWID, including needle and syringe programs (NSPs) and opioid substitution therapy (OST), are therefore not merely treatment modalities for individual patients but critically important public health interventions.

Phensedyl (and its generic equivalents) represents a distinct opioid problem specific to Bangladesh and India. Phensedyl is a codeine-containing cough syrup (containing codeine

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phosphate, promethazine, and chlorpheniramine) that has been widely used, and widely abused, in South Asia for several decades. Codeine is an opioid prodrug that is metabolized to morphine by the CYP2D6 enzyme, and its abuse in sufficient quantities produces opioid-like effects. Phensedyl has historically been imported into Bangladesh from India, where it is manufactured cheaply. Its abuse has fluctuated in response to law enforcement and cross-border smuggling dynamics, and the DNC Drug Report 2024 documented a concerning 26 percent increase in phensedyl abuse. Its particular population of users includes manual laborers, transport workers, and young men in certain urban and peri-urban areas, and its low cost relative to heroin makes it a "gateway" opioid in some social networks.

Pethidine (meperidine) deserves mention as a prescription opioid that is misused in Bangladesh, particularly in the context of healthcare workers who have access to controlled drugs and in patients who began using it legitimately for pain management. Pethidine is a particularly problematic opioid because of its active metabolite norpethidine, which accumulates with repeated dosing and can cause seizures and neurological toxicity.

38.2 Pharmacology of Opioids: Receptors, Effects, and Withdrawal

Opioids exert their effects by binding to three main types of opioid receptors: mu (MOR), delta (DOR), and kappa (KOR). These receptors are G protein-coupled receptors that, when activated, produce multiple intracellular effects including inhibition of adenylyl cyclase (reducing cAMP), activation of inward-rectifying potassium channels (hyperpolarizing the neuron), and inhibition of voltage-gated calcium channels (reducing neurotransmitter release). The net effect of opioid receptor activation is generally neuronal inhibition, though the specific effects depend on where in the brain or body the receptor is located.

The mu opioid receptor is the primary mediator of both the analgesic effects and the reinforcing (pleasurable) effects of opioids. Activation of MORs in the periaqueductal gray matter produces analgesia. Activation of MORs on GABA interneurons in the VTA disinhibits dopamine neurons, producing indirect dopamine release in the NAc and the subjective experience of euphoria. Activation of MORs in the brainstem produces respiratory depression, which is the mechanism of opioid overdose death. Activation of MORs in the gastrointestinal tract produces constipation.

The kappa opioid receptor has a distinctly different functional role. Activation of KORs in the extended amygdala and in NAc dynorphin-containing neurons produces dysphoria (unpleasant emotional states), anxiety, and psychotomimetic effects. The KOR system is thought to contribute to the negative affective states of opioid withdrawal and to the protracted dysphoria that persists after acute withdrawal, which motivates relapse.

Opioid tolerance develops rapidly with regular use: the dose required to produce the same pharmacological effect increases over time, reflecting downregulation of MORs and adaptive changes in their signaling pathways. Tolerance to the analgesic and euphoric effects of opioids develops more quickly than tolerance to the respiratory depression effect, which means that as people with opioid use disorder escalate their doses to maintain the same subjective effect, they approach the dose that causes fatal respiratory depression with narrowing safety margin.

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Opioid withdrawal syndrome develops when opioid use is abruptly stopped or when an opioid receptor antagonist is administered to a person who is physically dependent on opioids. The symptoms of opioid withdrawal are, in a sense, the mirror image of opioid effects: since opioids suppress adenylyl cyclase and reduce sympathetic nervous system activity, withdrawal is characterized by sympathetic hyperactivation (tachycardia, hypertension, sweating, piloerection, dilated pupils), gastrointestinal overactivity (nausea, vomiting, diarrhea, abdominal cramps), pain hypersensitivity, anxiety, agitation, insomnia, and intense craving. The locus coeruleus (LC), the brain's main noradrenergic nucleus, plays a central role in withdrawal: when opioids are withdrawn, the chronically suppressed LC becomes hyperactive, generating the sympathetic storm of acute opioid withdrawal.

Opioid withdrawal, while extraordinarily uncomfortable, is not directly life-threatening in otherwise healthy adults (in contrast to alcohol and benzodiazepine withdrawal, which can be fatal). However, it drives intense craving and relapse, and in the context of intravenous drug use, the risk of HIV and HCV transmission through needle sharing is highest during periods of active withdrawal when the desire for relief is most intense and judgment most impaired.

38.3 Opioid Substitution Therapy: Methadone and Buprenorphine

Opioid substitution therapy (OST), also called medication-assisted treatment (MAT) or opioid agonist therapy (OAT), involves the administration of a long-acting oral opioid (methadone or buprenorphine) to reduce or eliminate illicit opioid use, suppress withdrawal symptoms, reduce craving, and provide a stable platform for psychosocial recovery. OST is the most effective treatment for opioid use disorder available, and its evidence base is among the strongest in all of psychiatry.

The evidence for OST is unambiguous and extensive. Systematic reviews and meta-analyses consistently show that OST reduces illicit opioid use, reduces mortality (including from overdose, HIV transmission, and other drug use-related causes), reduces criminal activity, improves social functioning, and increases retention in treatment compared to detoxification-only or no treatment. The landmark NICE (National Institute for Health and Care Excellence) guidelines, updated most recently in 2022, recommend methadone or buprenorphine as the first-line treatment for opioid dependence in the United Kingdom. WHO guidelines similarly endorse OST as an essential component of the response to opioid use disorder, and methadone and buprenorphine are on the WHO Essential Medicines List.

Methadone is a full opioid agonist with a very long half-life (24 to 36 hours), which allows once-daily dosing and produces stable opioid blood levels that suppress withdrawal and craving throughout the day. Methadone is highly effective and has an extensive evidence base accumulated over decades. Its disadvantages include the risk of overdose if doses are too high or if combined with other CNS depressants, the potential for QTc interval prolongation at high doses (requiring ECG monitoring), and the requirement for daily supervised dispensing at least initially.

Buprenorphine is a partial agonist at the mu opioid receptor and an antagonist at the kappa opioid receptor. Its partial agonist properties mean that unlike full agonists, it has a ceiling

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effect on respiratory depression, making overdose much less likely than with methadone. Buprenorphine's kappa antagonism produces anxiolytic and antidepressant effects that may additionally benefit patients with co-occurring depression and anxiety. Buprenorphine is typically formulated in combination with naloxone (as Suboxone) to deter intravenous injection: when taken sublingually as intended, naloxone has minimal absorption and does not precipitate withdrawal, but if injected, the naloxone component is active and precipitates withdrawal, deterring diversion and misuse.

In Bangladesh, OST has been piloted on a very small scale, primarily through ICDDR,B programs in Dhaka targeting PWID for HIV prevention. The scale of OST provision is completely inadequate relative to the estimated 320,000 people with heroin use disorder: at any given time, only a few hundred people are receiving OST in Bangladesh. The barriers to scale-up include legal and regulatory restrictions on prescribing opioids for addiction treatment, stigma against OST among health professionals and policy-makers (who may see it as "substituting one drug for another"), the absence of trained prescribers, the absence of pharmacy infrastructure for supervised dispensing, and the resource constraints of the health system.

The "substituting one drug for another" objection to OST deserves direct engagement because it is widely heard in Bangladesh and reflects genuine misunderstanding. OST is not substituting an illegal drug for a legal one and leaving the person in the same state; it is providing a medically supervised, orally administered, stable-dose opioid that suppresses the roller-coaster of intoxication and withdrawal that characterizes active heroin use, eliminates the need for intravenous injection (with its associated infectious disease risks), and provides the stability that makes engagement with psychosocial recovery possible. The difference between a person using heroin intravenously and irregularly and a person stabilized on buprenorphine is not merely the drug class: it is the difference between chaos and stability, between daily criminal activity and productive engagement, and between active HIV and HCV transmission and their cessation.

38.4 Naloxone for Opioid Overdose Reversal: A Life-Saving Intervention

Opioid overdose is characterized by the clinical triad of reduced consciousness (ranging from deep sedation to coma), miosis (pinpoint pupils), and respiratory depression (slow, shallow, or absent breathing). It is a medical emergency: without rapid intervention, respiratory failure leads to hypoxic brain injury and death within minutes.

Naloxone is a pure opioid antagonist that reverses opioid overdose within two to five minutes of administration by competing with opioid drugs for mu opioid receptor binding sites. Naloxone can be administered intramuscularly, intravenously, or intranasally. Its half-life (approximately 30 to 90 minutes) is shorter than that of many opioids, meaning that repeated doses may be needed and the patient must be monitored for re-sedation once the naloxone wears off and the opioid drug resumes its effect. In patients dependent on opioids, naloxone precipitates acute withdrawal, which is distressing but not life-threatening.

The provision of take-home naloxone kits to people who use opioids, their families, and others in their social network who might witness an overdose is among the most cost-effective public

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health interventions in opioid use disorder. Trained overdose witnesses who have access to naloxone can reverse an overdose within the critical minutes before emergency medical services arrive. Programs distributing naloxone widely in communities with high opioid use have been demonstrated to reduce overdose mortality significantly.

In Bangladesh, naloxone is available in hospital settings but is not routinely provided as a take-home preparation to people with opioid use disorder or their families. The expansion of naloxone access, including training of community health workers, harm reduction outreach workers, and family members of people with opioid use disorder in overdose recognition and naloxone administration, should be a priority for the Bangladesh opioid response.

38.5 Case Study 38.1 - Opioid Use Disorder with HIV Risk in Dhaka

Rakib is a 28-year-old man from Dhaka's Old Town who presents to a community clinic operated by an NGO working with people who inject drugs. He has been injecting heroin for four years, initially beginning with snorting phensedyl in his early twenties as a teenager before transitioning to intravenous heroin use at age 24. He is now injecting two to three times daily using shared needles in a shooting gallery in his neighborhood. He has been tested for HIV and found negative, but he knows that other members of the injecting group have tested positive. He has hepatitis C antibodies (suggesting past or current HCV infection), which was detected at a mobile testing service three months ago. He has tried to stop heroin several times, including a one-week hospitalization for detoxification two years ago. Each time, he has relapsed within days of discharge.

His current presentation is precipitated by the death of a close friend from a suspected heroin overdose the previous week. He is frightened and wants to stop but has tried before without success. He has a wife and a young child; his wife does not know he is using heroin and he is terrified of losing her and his child if she finds out. He is working irregularly as a rickshaw puller, but his drug use has been seriously impairing his ability to work. He estimates he is spending 800 to 1000 taka daily on heroin, which he obtains through a combination of earnings, loans, and occasional theft.

The assessment establishes severe opioid use disorder (DSM-5-TR criteria: all eleven criteria present), recent HCV exposure, high HIV risk through needle sharing, moderate depression (PHQ-9 score 14), suicidal ideation (passive; no current intent or plan), social support limited (wife unaware of drug use; family in rural area), and occupational impairment.

The initial clinical management plan includes: hepatitis C workup (HCV RNA PCR to confirm active infection, liver function tests, FibroScan if available to assess liver fibrosis); HIV testing and counseling (repeat test given recent high-risk exposure); referral for buprenorphine-naloxone (Suboxone) initiation through the NGO's OST program, with induction on day two after a twelve-hour period of confirmed abstinence (to avoid precipitating acute withdrawal at buprenorphine induction in a patient with full MOR occupancy); provision of a needle and syringe program pack for harm reduction until OST is established; overdose prevention counseling and naloxone provision with training in administration.

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Psychosocial management includes: motivational interviewing about his ambivalence and his stated desire to stop for his child's sake; psychoeducation about OST and what to expect; safety planning around suicidal ideation; and in due course, a supported conversation with his wife (with Rakib's consent) about the reality of his situation and the treatment plan, given that family support is a significant predictor of treatment retention.

On buprenorphine 16 mg daily, Rakib stabilizes within two weeks. He is no longer in withdrawal, his craving is substantially reduced, he is sleeping better, and he has begun working more regularly. He attends the clinic twice weekly for supervised dispensing and psychosocial support. At the three-month follow-up, he reports no illicit opioid use (confirmed by urine toxicology). His wife has been informed and, while initially deeply distressed, has agreed to support his treatment. His HCV infection is confirmed as active (genotype 3, the most prevalent genotype in South Asia), and a referral has been made for direct-acting antiviral treatment, which is now available at reduced cost through government procurement in Bangladesh.

This case illustrates the importance of OST as a life-changing (potentially life-saving) intervention for severe opioid use disorder, the integration of harm reduction and treatment approaches, the importance of HIV and HCV prevention in the PWID population, and the complexity of the psychosocial dimensions of opioid use disorder in the Bangladeshi context.

CHAPTER THIRTY-NINE: YABA AND METHAMPHETAMINE USE DISORDER - THE STIMULANT CRISIS

39.1 Yaba: The "Crazy Drug" and its Social Context

Of all the substance use challenges facing Bangladesh, none has attracted as much public attention, media coverage, and political discourse as yaba. The word yaba is Thai in origin (meaning "crazy drug" or "madness drug") and refers to tablets containing a combination of methamphetamine (approximately 25 to 30 percent) and caffeine (approximately 60 to 70 percent), along with tablet excipients. These tablets, typically pink or orange and about 5 mm in diameter, are manufactured primarily in Myanmar and trafficked into Bangladesh through the porous 270-kilometer border between the two countries, as well as through maritime routes via the Bay of Bengal.

Yaba emerged as a major drug problem in Bangladesh in the late 1990s and early 2000s, replacing heroin as the drug of concern among young urban users, partly because of its lower cost, more attractive pharmacological profile (stimulant rather than sedative, enhancing energy and confidence rather than inducing drowsiness), and perceived social acceptability compared to heroin. The DNC Drug Report 2024 estimated that approximately 2.3 million people in Bangladesh use yaba regularly, making it the second most commonly used substance after cannabis in terms of user numbers. The Bangladesh Drug Use and Social Influence Dataset published in 2025 confirmed the dominance of yaba among younger urban users in both Dhaka and Sylhet divisions.

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The social profile of yaba use in Bangladesh is distinctive. It is particularly prevalent among transport workers (truck drivers, bus drivers, and rickshaw pullers who use it to maintain alertness during long working hours), sex workers (who use it both for its disinhibiting effects and as a work aid), young male students and urban youth seeking performance enhancement or social facilitation, and garment industry workers seeking to maintain productivity during long shifts. The drug crosses socioeconomic lines more than heroin, with significant use in both lower-income and middle-class populations, and both male and female use, though male use predominates.

The social consequences of yaba use in Bangladesh are significant. Intimate partner violence is strongly associated with yaba use in several Bangladeshi studies, with many women presenting to domestic violence services and medical settings with violence perpetrated by male partners under the influence of yaba. Road traffic accidents involving yaba-using transport workers are a recognized cause of fatal accidents on Bangladeshi roads. The financial consequences of supporting a yaba habit (which typically costs between 100 and 300 taka per tablet, with users consuming multiple tablets daily) drive theft, financial exploitation of families, and other antisocial behaviors.

An emerging concern is crystal methamphetamine ("ice" or "crystal meth"), a purer form of methamphetamine that is smoked or injected rather than swallowed. Crystal meth has substantially higher bioavailability and more rapid onset than oral yaba, producing more intense euphoria and more rapid development of dependence. The DNC Drug Report 2024 identified crystal meth as an emerging substance in Bangladesh, consistent with global trends showing crystal meth spreading from East and Southeast Asia into South Asian markets. If crystal meth becomes established in Bangladesh, the addiction burden will be substantially worse than that associated with yaba, given the drug's far greater addictive potential when smoked or injected.

39.2 Pharmacology of Methamphetamine and the Clinical Picture of Yaba Intoxication

Methamphetamine is a substituted amphetamine that acts primarily by reversing the dopamine transporter (DAT) and norepinephrine transporter (NET), driving massive release of both dopamine and norepinephrine into the synapse, and by inhibiting monoamine oxidase (MAO), reducing their breakdown. The net effect is a dramatic and sustained increase in synaptic dopamine and norepinephrine throughout the brain.

The dopamine release produced by methamphetamine in the NAc is approximately three to five times greater than that produced by cocaine (which blocks rather than reverses the DAT, producing a smaller and shorter-lasting effect). This larger dopamine signal explains why methamphetamine is more intensely reinforcing than cocaine and why dependence develops more rapidly. The norepinephrine release contributes to the cardiovascular effects (tachycardia, hypertension, vasoconstriction) and to the central effects of alertness, wakefulness, and reduced appetite.

The pharmacokinetics of the methamphetamine component of yaba when taken orally are significantly different from those of smoked or injected methamphetamine. Oral

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methamphetamine has a relatively slow absorption (peak plasma levels at approximately 3 to 4 hours) and a long half-life (10 to 12 hours), producing a prolonged but less intense stimulant effect compared to the immediate and intense rush of intravenous or smoked methamphetamine. This pharmacokinetic profile makes oral yaba less immediately reinforcing but still addictive, particularly because the caffeine component (which has its own reinforcing properties and a much more rapid onset) provides an early stimulant effect while the methamphetamine component provides prolonged stimulation.

The clinical features of yaba intoxication include euphoria and elevated mood, increased energy and alertness, decreased appetite, decreased need for sleep (sometimes for 24 to 48 hours continuously with high doses), increased libido, increased talkativeness and sociability, heightened confidence, and at higher doses or with prolonged use, irritability, aggression, paranoia, and psychosis. Cardiovascular effects include tachycardia, hypertension, and increased risk of cardiac arrhythmia.

Methamphetamine-induced psychosis is one of the most clinically important complications of yaba use in Bangladesh. It can occur after a single high dose in vulnerable individuals or with repeated heavy use. It is characterized by paranoid delusions (typically beliefs that the person is being watched, followed, or plotted against), auditory and visual hallucinations, thought disorder, and severe agitation. The clinical picture of methamphetamine psychosis is indistinguishable from paranoid schizophrenia in cross-section, and the distinction can only be made on the basis of history (recent heavy stimulant use) and course (rapid resolution with antipsychotics and abstinence in most cases). However, a proportion of patients who develop methamphetamine psychosis, particularly those with a family history of psychotic illness or who are genetically predisposed, may go on to develop a persistent psychotic illness that does not resolve with abstinence and requires long-term antipsychotic treatment.

39.3 Neurotoxicity of Chronic Methamphetamine Use

Chronic methamphetamine use is associated with direct neurotoxic effects on the dopaminergic and serotonergic systems. Multiple neuroimaging studies have demonstrated reductions in striatal dopamine transporter (DAT) density of 20 to 30 percent in chronic methamphetamine users compared to non-using controls, reflecting damage to dopaminergic terminals. These reductions are associated with impairments in fine motor control (similar to subclinical parkinsonism), cognitive deficits (particularly in executive function, attention, and memory), and with the anhedonia and depressive symptoms that characterize the post-acute withdrawal period.

The cognitive deficits associated with chronic methamphetamine use are now well documented and include impairments in attention, working memory, executive function (the ability to plan, organize, and inhibit inappropriate responses), processing speed, and verbal learning and memory. These cognitive impairments are clinically important because they can impair the person's ability to benefit from cognitive-behavioral treatments, to maintain employment, and to manage their own recovery. Neuropsychological assessment of methamphetamine users in treatment can identify these deficits and inform treatment planning.

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Structural neuroimaging studies have shown reductions in gray matter volume in the prefrontal cortex, parietal cortex, and temporal cortex of chronic methamphetamine users, as well as abnormalities in white matter integrity. Functional imaging studies show reduced activity in the prefrontal cortex during tasks requiring executive control and impulse inhibition, which correlates with the behavioral manifestations of impaired impulse control. The good news from this literature is that at least some of these changes show partial recovery with prolonged abstinence: DAT density, gray matter volumes, and cognitive function all show improvement over months to years of abstinence, though recovery is often incomplete with prolonged heavy use.

39.4 Treatment of Methamphetamine Use Disorder: The Pharmacotherapy Gap

One of the most significant challenges in addiction medicine globally, and specifically in Bangladesh, is the absence of an approved pharmacological treatment for methamphetamine use disorder. Unlike opioid use disorder (for which methadone and buprenorphine are highly effective), and alcohol use disorder (for which naltrexone and acamprosate have proven efficacy), no pharmacological agent has yet been approved specifically for methamphetamine dependence.

This pharmacotherapy gap has motivated extensive research. Among the agents most studied, methylphenidate and mixed amphetamine salts (agonist substitution approaches, analogous to methadone for opioids) have shown modest effects in some trials but not in others. Modafinil (a wake-promoting agent) has also shown inconsistent results. Bupropion (a norepinephrine-dopamine reuptake inhibitor) has shown some efficacy in reducing methamphetamine use in light users and has been studied in combination with naltrexone. A 2024 randomized controlled trial published in JAMA Psychiatry found that the combination of extended-release naltrexone injection and bupropion had significant effects on reducing methamphetamine use in men who have sex with men with methamphetamine use disorder, representing one of the most promising pharmacological findings in this area. The mechanism may involve complementary actions: bupropion reducing the desire for the drug (through mild dopaminergic stimulation that reduces craving) and naltrexone reducing the opioid-mediated pleasurable effects of methamphetamine.

N-acetylcysteine (NAC), which restores glutamate homeostasis in the NAc by upregulating cystine-glutamate exchangers, has shown some promise in reducing craving in methamphetamine use disorder in preliminary studies. Mirtazapine, an alpha-2 adrenergic antagonist antidepressant with complex pharmacological effects, has shown efficacy in reducing methamphetamine use in a well-designed randomized trial in a Thai population.

Given the absence of an approved pharmacological treatment for methamphetamine use disorder, psychological treatments are the mainstay of management.

The contingency management approach (described in the alcohol section) has the strongest evidence base for methamphetamine use disorder. Multiple well-designed randomized trials have demonstrated that systematic positive reinforcement for abstinence (confirmed by urine toxicology), using vouchers or prizes, significantly increases rates of abstinence in people with stimulant use disorder. This effect has been replicated across diverse populations and settings,

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and it is robust even though the amounts of reinforcement used in research trials are relatively modest.

The Matrix Model, developed specifically for stimulant use disorder, is a structured 16-week outpatient program that combines CBT, MI, family education, and twelve-step facilitation in a manualized format. It was developed in response to the methamphetamine epidemic in the western United States and has been adapted and studied in several international settings including Southeast Asia. Trials of the Matrix Model in Thailand (which has a large methamphetamine population given its proximity to the Golden Triangle) have produced positive results, and its adaptation for the Bangladeshi context is a promising area for clinical program development.

39.5 Case Study 39.1 - Yaba-Induced Psychosis in a Transport Worker

Mohammad is a 32-year-old truck driver from Chittagong who is brought to the emergency department of Chittagong Medical College Hospital by his brother, who says he has "gone mad." Over the past week, Mohammad has been increasingly convinced that his colleagues at the transport company are plotting to kill him. He believes they have installed cameras in his apartment and are recording his activities. He has stopped sleeping, eating very little, and has threatened a coworker with violence because he believes this coworker is the ringleader of the plot against him.

On mental state examination, Mohammad is agitated, suspicious, and intermittently hostile. He has paranoid delusions, prominent auditory hallucinations (hearing voices confirming his persecution), rapid and pressured speech, and marked psychomotor agitation. His pupils are dilated, his heart rate is 118 per minute, his blood pressure is 158/96 mmHg, and he is sweating profusely. His temperature is 37.8 degrees Celsius.

Careful history from the brother reveals that Mohammad has been using yaba for approximately two years, initially two tablets daily to stay awake during long driving shifts, but escalating over the past three months to eight to ten tablets per day. He has had minimal sleep for the past four to five days before presentation. The brother is not aware of any prior psychiatric history. There is no family history of psychotic illness.

Urine toxicology is positive for amphetamines. Blood results show mild elevation of creatinine kinase (suggesting early rhabdomyolysis from psychomotor agitation), otherwise normal. ECG shows sinus tachycardia without QTc prolongation.

The clinical diagnosis is methamphetamine-induced psychosis superimposed on methamphetamine intoxication, with early rhabdomyolysis as a medical complication. The management involves:

Medical management: intravenous fluids for hydration and to protect renal function from myoglobin; monitoring of creatinine kinase, renal function, and ECG.

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Pharmacological management of psychosis and agitation: haloperidol 5 mg intramuscularly for acute agitation, followed by oral haloperidol 5 mg twice daily. In a subsequent assessment once acute agitation has resolved, olanzapine or quetiapine may be considered as alternatives with potentially better tolerability. Benzodiazepines (lorazepam 1 to 2 mg intramuscularly or orally) are used as adjuncts for sedation and agitation management rather than as antipsychotics per se.

Psychoeducation: once Mohammad has been treated and has regained capacity, psychoeducation about the relationship between his yaba use and his psychotic episode is an essential component of care. He is specifically told that yaba was the cause of his psychosis, that his symptoms are expected to resolve with abstinence and treatment, and that continuing to use yaba will very likely produce another psychotic episode. This honest and direct connection between drug use and psychosis is often one of the most powerful motivators for behavior change in this population.

Over 72 hours of treatment with haloperidol, intravenous fluids, and cessation of yaba use, Mohammad's psychotic symptoms resolve almost completely. His heart rate normalizes, his creatinine kinase returns to normal, and he is calm and oriented. He is distressed and embarrassed about his behavior during the acute episode. He accepts a referral to an addiction treatment program for yaba use disorder and agrees to inform his employer that he is seeking treatment, with the help of his brother.

This case illustrates the acute medical and psychiatric complications of heavy yaba use, the importance of rapid pharmacological management of stimulant-induced psychosis, the investigative workup for medical complications (rhabdomyolysis, cardiovascular effects), and the clinical opportunity that a stimulant psychosis episode presents for engaging the patient in treatment.

CHAPTER FORTY: CANNABIS USE DISORDER - THE MOST PREVALENT SUBSTANCE PROBLEM IN BANGLADESH

40.1 Cannabis in Bangladesh: Cultural History and Contemporary Epidemiology

Cannabis has been cultivated and used in the Indian subcontinent for at least three thousand years, and its use has deep cultural roots in the Bengal region. In Hindu religious practice, cannabis preparations (including bhang, a drink made from cannabis leaves and buds, and charras, a form of hashish) are associated with the worship of Shiva and are consumed at festivals including Holi and Maha Shivaratri. In Sufi Islam, certain tariqa (brotherhoods) have historically used cannabis as a spiritual aid, though this practice is theologically controversial within mainstream Islam. In folk medicine across South Asia, cannabis preparations have been used for pain, insomnia, digestive problems, and various other conditions.

In contemporary Bangladesh, cannabis (locally known as ganja when smoked, charras or charas when in resin form, and sometimes bhang when consumed as a drink) is the most widely used

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illicit substance, with the DNC Drug Report 2024 estimating approximately 6.1 million regular users. This makes cannabis use disorder the single most common substance use disorder in Bangladesh by a wide margin. Cannabis use is prevalent across socioeconomic groups, geographic areas, and age groups, though it is most concentrated among young men. Studies from Dhaka rehabilitation centers report cannabis as the most common presenting substance, and community surveys consistently show cannabis prevalence far exceeding that of all other substances.

Despite its prevalence, cannabis use disorder attracts considerably less clinical and policy attention in Bangladesh than yaba or opioids, partly because it is perceived as less immediately dangerous and socially destructive, and partly because its long cultural history creates ambivalence about its status as a harmful substance. This relative neglect is partially justified (cannabis use disorder is generally less severe in its acute consequences than opioid or stimulant use disorders) but is also partially a public health blind spot, given the substantial evidence that heavy cannabis use in adolescence is associated with lasting cognitive impairment, that cannabis use disorder is a real and disabling condition in a subset of heavy users, and that cannabis use increases the risk of psychotic illness in vulnerable individuals.

40.2 The Pharmacology of Cannabis and the Endocannabinoid System

Cannabis contains over 100 cannabinoids, of which the two most pharmacologically important are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is the primary psychoactive compound responsible for the characteristic effects of cannabis intoxication; CBD is not psychoactive in the conventional sense but has anxiolytic, antipsychotic, and anticonvulsant properties that modify the effects of THC and have generated significant medical interest in their own right.

THC exerts its effects primarily through the cannabinoid CB1 receptor, a G protein-coupled receptor that is expressed at high density throughout the brain, with particularly high expression in the basal ganglia (including the NAc), hippocampus, frontal cortex, and cerebellum. CB1 receptors are located primarily on presynaptic terminals, where their activation inhibits neurotransmitter release. The endocannabinoid system functions as a retrograde signaling system: postsynaptic neurons release endocannabinoids (primarily anandamide and 2-AG) in response to activity, which travel backward across the synapse to activate CB1 receptors on the presynaptic terminal, thereby modulating (typically inhibiting) further neurotransmitter release. This retrograde signaling system plays critical roles in the regulation of synaptic plasticity, pain, appetite, mood, and memory.

THC produces the characteristic effects of cannabis intoxication through its action on CB1 receptors in various brain regions. Euphoria and altered mood are mediated partly through dopamine release in the NAc (via disinhibition of VTA dopamine neurons). Altered perception of time, intensification of sensory experiences, and impaired short-term memory are mediated through hippocampal and cortical CB1 activation. Relaxation and sedation reflect CB1 activation in multiple circuits. The anxiogenic effects seen with high doses of THC (and which are more common in individuals who are anxiety-prone or inexperienced with cannabis) may reflect CB1 activation in the amygdala and its effects on the amygdala's threat detection circuits.

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CBD has multiple pharmacological targets and its mechanisms are more complex than those of THC. CBD acts as a negative allosteric modulator of CB1 receptors (reducing rather than mimicking the effects of THC), as a transient receptor potential channel (TRPV1) agonist, as a 5-HT1A receptor agonist (contributing to its anxiolytic effects), and as an inhibitor of the endocannabinoid reuptake transporter. The combination of CBD's CB1 negative modulation with its serotonergic and TRP channel effects explains its ability to reduce some of the adverse effects of THC (particularly anxiety and psychosis-inducing effects) and its potential therapeutic applications in anxiety disorders and epilepsy.

The potency of cannabis products has increased dramatically over the past three decades in most countries. Modern cannabis strains and cannabis concentrates can contain THC concentrations of 20 to 30 percent or higher, compared to the 5 to 10 percent THC content typical of traditional cannabis products. In Bangladesh, the cannabis available on the local market is generally less potent than in high-income markets (though this varies), but the increasing availability of higher-potency products through informal networks is a growing concern.

40.3 Cannabis and Psychosis: The Evidence and Its Clinical Implications

The relationship between cannabis use and psychotic illness is one of the most extensively studied and most important questions in contemporary psychiatric epidemiology. The evidence for a causal relationship between cannabis use and the risk of psychotic illness is now strong, based on consistent findings from multiple longitudinal studies, meta-analyses, and natural experiments.

The key epidemiological findings include: cannabis use approximately doubles the lifetime risk of developing a psychotic illness; the risk is dose-dependent (heavier use confers greater risk than lighter use); the risk is potency-dependent (high-THC products confer more risk than lower-THC products); the risk is age-dependent (cannabis use in adolescence, when the brain is still developing, confers more risk than initiation in adulthood); and people with a genetic predisposition to psychosis (for example, carriers of certain COMT gene variants that influence dopamine metabolism in the prefrontal cortex) are particularly vulnerable to the psychosis-inducing effects of cannabis.

The mechanism through which cannabis increases psychosis risk involves the effects of THC on dopaminergic neurotransmission. THC, by activating CB1 receptors on inhibitory interneurons in the striatum and frontal cortex, increases striatal dopamine synthesis capacity and produces abnormal dopamine signaling that resembles the dopaminergic abnormalities documented in schizophrenia. This "THC sensitization" of the dopaminergic system may lower the threshold for psychotic illness in genetically vulnerable individuals.

CBD, in contrast to THC, appears to have antipsychotic properties, and there is some evidence that it may attenuate the psychosis-inducing effects of THC when the two cannabinoids are present together. The decline in CBD content of commercially available cannabis (as breeding programs have maximized THC content), and the consequent change in the THC to CBD ratio of modern cannabis, may partly explain why high-potency contemporary cannabis appears to carry greater psychosis risk than older, lower-potency preparations.

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For clinical practice in Bangladesh, the cannabis-psychosis relationship has two main implications. First, in any patient presenting with a first psychotic episode, a thorough assessment of cannabis use history is essential. A significant proportion of first psychotic episodes in young men in Bangladesh are precipitated or contributed to by heavy cannabis use, and this information is essential both for diagnosis (cannabis-induced psychotic disorder has a better prognosis than schizophrenia) and for treatment planning (cessation of cannabis use is the single most important intervention for cannabis-induced psychosis). Second, in any patient with an established psychotic illness (including schizophrenia), continued cannabis use is associated with more severe symptoms, higher relapse rates, and worse functional outcomes, and reducing or eliminating cannabis use should be an explicit therapeutic target.

40.4 Cannabis Use Disorder: Clinical Features, Assessment, and Treatment

Cannabis use disorder (CUD), as defined by DSM-5-TR, occurs in approximately 8 to 10 percent of people who have ever used cannabis, and in approximately 30 percent of daily or near-daily users. In Bangladesh, given the 6.1 million regular cannabis users estimated by the DNC, this suggests that approximately 500,000 to 600,000 people in Bangladesh have a diagnosable cannabis use disorder, representing a very large number of people with a treatable condition.

The clinical features of cannabis use disorder overlap with the general features of substance use disorders: loss of control over use, prioritization of cannabis use over other activities, continued use despite problems, tolerance, and withdrawal. The cannabis withdrawal syndrome, which was formally recognized in DSM-5 in 2013 (having been previously classified as uncertain), occurs in approximately half of daily cannabis users upon cessation and is characterized by irritability, anger, anxiety, insomnia, decreased appetite, restlessness, depressed mood, and physical discomfort. Symptoms begin within one to two days of cessation, peak at two to four days, and typically resolve within two weeks, though disturbed sleep and vivid dreams may persist for longer.

Unlike most other substance use disorders, there is no approved pharmacological treatment for cannabis use disorder. Trials of various agents (including SSRIs, bupropion, buspirone, divalproex, and N-acetylcysteine) have generally not shown robust efficacy. CBD has attracted interest as a potential treatment for cannabis use disorder given its potential to moderate the rewarding effects of THC through CB1 negative modulation, but clinical trial evidence is still limited.

The evidence for psychological treatments in cannabis use disorder is more encouraging. Motivational enhancement therapy (MET), which applies motivational interviewing principles in a brief (three to four session) structured format, has demonstrated efficacy in increasing motivation to change and reducing cannabis use in multiple randomized trials. Cognitive-behavioral therapy for cannabis use disorder, combining coping skills training, cue exposure, and relapse prevention, has also demonstrated efficacy when delivered in more intensive formats. The combination of MET and CBT may be more effective than either alone.

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CHAPTER FORTY-ONE: TOBACCO USE DISORDER - THE LARGEST PREVENTABLE CAUSE OF DEATH IN BANGLADESH

41.1 Tobacco in Bangladesh: Scale and Consequences

Tobacco use is the leading preventable cause of death in Bangladesh and one of the most significant public health challenges in the country. Bangladesh is among the world's highest consumers of tobacco, both smoked (cigarettes, bidis, hookah) and smokeless (chewing tobacco, zarda, sadapata, khoini, gul, and snuff). The Global Adult Tobacco Survey Bangladesh 2017 estimated that approximately 35.3 percent of adults in Bangladesh use tobacco in some form: 18.0 percent use smoked tobacco and 20.6 percent use smokeless tobacco (with some overlap between the categories). Tobacco use in Bangladesh is deeply socially patterned: it is more prevalent among men (44.7 percent any tobacco use) than women (25.2 percent), more prevalent in rural than urban areas, and more prevalent in lower socioeconomic groups than higher ones.

The health consequences of tobacco use in Bangladesh are enormous. Tobacco is the leading cause of premature mortality in Bangladesh, responsible for an estimated 126,000 deaths annually. It is a major cause of cardiovascular disease (particularly ischaemic heart disease and stroke), chronic obstructive pulmonary disease (COPD), lung cancer, oral cancer, and several other cancers. Smokeless tobacco, which is particularly commonly used by women in rural Bangladesh (often in the form of zarda mixed with betel nut), is associated with extremely high rates of oral submucous fibrosis, oral cancer, and esophageal cancer.

The economic costs of tobacco use in Bangladesh are substantial: a 2017 World Bank analysis estimated the total economic cost of tobacco use (including health care costs and productivity losses due to tobacco-attributable morbidity and premature mortality) at approximately 305 billion taka per year (approximately USD 3.5 billion), compared with total tobacco tax revenues of approximately 22.8 billion taka. This enormous net economic loss represents a powerful argument for stronger tobacco control policies, including substantially higher tobacco taxes and more comprehensive smoke-free legislation.

41.2 Pharmacology of Nicotine and the Neurobiology of Tobacco Dependence

Nicotine is the primary psychoactive and addictive component of tobacco, though tobacco smoke and smokeless tobacco products contain many other chemicals that contribute to health effects. Nicotine acts on nicotinic acetylcholine receptors (nAChRs), which are ligand-gated ion channels distributed widely throughout the brain, peripheral nervous system, and neuromuscular junction.

The nicotinic receptors most relevant to tobacco dependence are the alpha-4 beta-2 subtype (expressed at high density throughout the brain and the primary mediator of nicotine's reinforcing effects) and the alpha-7 subtype (expressed prominently in the hippocampus and involved in cognitive enhancement). Nicotine binding to alpha-4 beta-2 nAChRs on VTA dopamine neurons and on GABAergic interneurons in the VTA disinhibits dopamine neurons and triggers dopamine release in the NAc, producing the mild euphoria and relaxation of acute

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nicotine exposure. This dopaminergic reinforcement is the primary mechanism of nicotine addiction.

Nicotine has several additional pharmacological effects that contribute to its reinforcing properties beyond dopamine release: it releases endogenous opioids (contributing to its anxiolytic and mood-elevating effects), increases the release of acetylcholine and glutamate in cortical circuits (contributing to its cognitive-enhancing effects, including improved attention and short-term memory), and releases norepinephrine (contributing to arousal and appetite suppression). The multiple reinforcing effects of nicotine, combining reward, mood improvement, cognitive enhancement, and weight control, make it a pharmacologically complex substance and explain why nicotine dependence can be so resistant to treatment.

Tolerance to the neurological effects of nicotine develops rapidly, mediated by desensitization of nAChRs. The upregulation of nAChR numbers that occurs with chronic nicotine exposure means that in the absence of nicotine, the nicotinic receptors become acutely sensitized and the absence of nicotinic stimulation produces the negative affective state of nicotine withdrawal: irritability, anxiety, difficulty concentrating, restlessness, increased appetite and weight gain, and intense craving. These withdrawal symptoms motivate the resumption of smoking and are a major driver of relapse.

41.3 Evidence-Based Treatment for Tobacco Use Disorder

The evidence base for tobacco cessation treatment is among the strongest in addiction medicine, with multiple pharmacological agents and psychological interventions demonstrating efficacy in large, well-conducted randomized trials.

Nicotine replacement therapy (NRT) provides nicotine through a route other than tobacco smoking (patches, gum, lozenges, inhalers, nasal spray), thereby satisfying nicotine dependence and suppressing withdrawal without the additional harmful chemicals in tobacco smoke. NRT approximately doubles the rate of long-term abstinence compared to placebo. It is available in Bangladesh in patch and gum forms, though cost remains a barrier for many users. Combining two forms of NRT (typically a patch for background nicotine delivery plus a short-acting form for breakthrough craving) is more effective than monotherapy.

Varenicline (Champix/Chantix) is a partial agonist at alpha-4 beta-2 nAChRs that both provides a modest nicotine-like effect (reducing withdrawal symptoms) and blocks the rewarding effects of any nicotine consumed (reducing reinforcement of smoking). It is approximately three times more effective than placebo in achieving long-term abstinence and is more effective than NRT or bupropion monotherapy. Varenicline is available in Bangladesh but is expensive relative to incomes, limiting its accessibility. It is generally well-tolerated, with the most common side effect being nausea. Earlier concerns about neuropsychiatric side effects (mood changes, suicidal ideation) have been largely addressed by a large-scale meta-analysis finding no significant increase in neuropsychiatric events compared to NRT or placebo.

Bupropion (marketed as Zyban for smoking cessation) inhibits the reuptake of dopamine and norepinephrine, partially compensating for the dopamine deficit of nicotine withdrawal. It

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approximately doubles the rate of long-term abstinence compared to placebo and can be combined with NRT for greater effect. Bupropion is available in Bangladesh at lower cost than varenicline, making it a practically important option.

Brief advice from a physician ("ask, advise, assist" model) delivered opportunistically during routine clinical consultations significantly increases the rate of quit attempts and successful cessation. Training primary care physicians in Bangladesh to systematically apply this approach during consultations with tobacco users represents one of the most cost-effective tobacco control interventions available and requires only basic training and a few minutes of clinical time.

The National Tobacco Control Cell of Bangladesh, established under the Ministry of Health and Family Welfare, has been implementing tobacco control activities within the framework of the National Tobacco Control Act of 2005 and its amendments. Bangladesh is a signatory to the WHO Framework Convention on Tobacco Control (FCTC). Despite these policy frameworks, tobacco control implementation remains incomplete in Bangladesh, with particularly large gaps in enforcement of smoke-free legislation, regulation of smokeless tobacco products, and provision of cessation support services.

CHAPTER FORTY-TWO: BEHAVIORAL ADDICTIONS - GAMBLING, INTERNET GAMING, AND THE EMERGING LANDSCAPE

42.1 The Concept of Behavioral Addiction

The concept of behavioral addiction, which refers to compulsive engagement in behaviors other than substance use that share the key features of substance use disorders (loss of control, continued engagement despite negative consequences, craving, tolerance, and withdrawal-like states), has generated significant scientific and clinical interest over the past two decades. The underlying premise is that any behavior that is sufficiently reinforcing, that engages the mesolimbic dopamine system and its associated circuits, and that occurs in the context of particular vulnerabilities, can in principle develop into a compulsive pattern that resembles addiction.

The DSM-5 recognized gambling disorder as the only non-substance behavioral addiction in its main text (formerly classified as "pathological gambling" in the impulse control disorders section). ICD-11, in a major development, added gaming disorder as a new category. The DSM-5 also included internet gaming disorder in its appendix (as a condition warranting further research rather than as an official diagnosis), and proposals for compulsive sexual behavior disorder and other behavioral addictions have been the subject of ongoing debate.

The neurobiological evidence for the addiction model of behavioral addictions is now substantial. Gambling disorder, the best-studied behavioral addiction, shows patterns of brain activation during gambling-related cues that closely resemble those seen in substance use disorders during drug cues: increased activation of the ventral striatum (NAc) and reduced activation of the prefrontal cortex. Problem gamblers show reduced D2 receptor availability in

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the striatum, the same finding documented in stimulant and opioid users. The same impairments in cognitive control, the same distortions in risk and reward valuation, and the same patterns of compulsive engagement despite adverse consequences are present in gambling disorder and substance use disorders. These neurobiological parallels provide a principled basis for grouping behavioral and substance addictions together as aspects of a common underlying phenomenon of "addiction," differing in the substance or behavior that triggers the relevant neural circuits rather than in the underlying neural mechanisms.

42.2 Gambling Disorder in Bangladesh: A Hidden Problem

Gambling is illegal in Bangladesh under the Public Gambling Act of 1867 (a colonial era statute that has remained on the books), and like alcohol, is also prohibited under Islamic law for Muslim citizens. This legal and religious prohibition means that gambling is not acknowledged as a public health problem in Bangladesh to the extent that it might be, and there is no systematic epidemiological data on its prevalence.

However, gambling in various forms is widespread in Bangladesh despite its illegality. Cricket betting is pervasive across socioeconomic groups, facilitated by online betting platforms accessible via smartphone that technically operate from jurisdictions outside Bangladesh but are freely accessible to Bangladeshi users. Card gambling occurs in many workplaces, community spaces, and private homes. Lotteries of various kinds (some legally authorized, others not) are widely used. In some communities, betting on traditional games including kabaddi, cock fights, and other forms of competition is culturally embedded.

Online gambling deserves particular attention as an emerging problem in Bangladesh. The rapid expansion of smartphone and internet access has made online casino platforms, sports betting applications, and online poker accessible to anyone with a device and an internet connection, regardless of the legal status of gambling in Bangladesh. The combination of accessibility (gambling available 24 hours a day from a private device), anonymity (reducing social deterrents), and the specific design features of online gambling platforms (including rapid game pace, variable reward schedules, loss chasing mechanics, and the use of virtual currencies that dissociate spending from real money value) makes online gambling particularly addictogenic.

Clinically, gambling disorder in Bangladesh presents primarily in men (consistent with global epidemiology), often in the context of financial crisis precipitated by gambling debts. The pathway to presentation is typically through financial crisis, relationship breakdown (spouse or family discovering gambling debts), or employment problems rather than voluntary help-seeking specifically for a gambling problem. This means that clinicians in settings where financial crisis and relationship breakdown are presenting problems should routinely screen for problem gambling.

42.3 Internet Gaming Disorder: The ICD-11 Recognition and Its Implications

Gaming disorder (GD) was added to ICD-11 in 2019 in the category of "disorders due to addictive behaviors," defined as a pattern of gaming behavior characterized by impaired control over gaming, increasing priority given to gaming to the extent that it takes precedence over other

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life interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences. The diagnosis requires that the gaming pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational, or other important areas of functioning, and that the pattern has been apparent for at least twelve months.

In Bangladesh, the rapid expansion of smartphone ownership and mobile internet access has been accompanied by a rapid growth in the popularity of mobile gaming, particularly among young people. The COVID-19 pandemic and associated school closures dramatically accelerated this trend by confining children and adolescents at home with digital devices as their primary entertainment and social outlet. Several mobile game titles, including PUBG Mobile (a battle royale game), Free Fire, and multiple sports gaming applications, are enormously popular among Bangladeshi youth.

The clinical picture of gaming disorder in Bangladeshi adolescents shares features with the international literature: the vast majority of affected individuals are male; gaming typically begins as a leisure activity in early adolescence; escalation to problematic levels occurs gradually; the primary motivations for heavy gaming include competition and achievement, social connection (multiplayer gaming provides social interaction with friends), escape from stress and negative affect, and the intrinsic reward of the game mechanics; and functional consequences include declining academic performance, disrupted sleep (gaming at night), reduced physical activity, withdrawal from family and non-gaming social interaction, and sometimes interpersonal conflict over gaming behaviors.

A 2025 paper in the Journal of Behavioral Addictions, examining gaming disorder in South Asian contexts, found that cultural factors including family expectations around academic performance, high-pressure school environments, limited alternative leisure outlets, and peer group norms around gaming all contribute to the specific patterns of problematic gaming observed in the region. The paper emphasizes that gaming disorder in South Asian countries should not be understood simply through the lens of Western clinical descriptions but through careful attention to the specific cultural context in which gaming behaviors occur and escalate.

42.4 Compulsive Sexual Behavior Disorder: ICD-11 Recognition and Clinical Controversies

Compulsive sexual behavior disorder (CSBD) was included in ICD-11 as a new diagnostic category under "impulse control disorders" (not under behavioral addictions, reflecting ongoing debate about whether it truly belongs in the addiction framework). It is characterized by persistent failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behavior, marked distress or functional impairment, and a pattern over at least six months despite attempts to control or reduce the behavior.

The clinical relevance of CSBD in Bangladesh is real, though the condition is almost never diagnosed because of the profound social stigma surrounding sexual behavior and the absence of clinical services specifically for sexual health problems. Men who experience loss of control over pornography use (particularly through increasingly accessible online pornographic material), over sexual compulsions, or over patterns of extramarital sexual behavior that they

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want to control but cannot, rarely present to clinical services in Bangladesh because there is nowhere appropriate to go and because disclosure would carry enormous social risk.

The theoretical controversy about CSBD is considerable: critics argue that what is being pathologized is simply sexual behavior that diverges from social or religious norms, and that the "addiction" or "compulsion" framing is being inappropriately applied to behavior that is not genuinely compulsive in the neuroscientific sense. Proponents argue that neurobiological studies of individuals with CSBD show patterns of cue-induced brain activation that closely resemble those seen in substance use disorders (including increased activation of the ventral striatum and anterior cingulate cortex in response to sexual stimuli, and impaired prefrontal regulation of these responses), suggesting that at least for a subset of individuals, there is a genuine loss of control that represents more than simply unconventional sexual preference.

In the Bangladeshi clinical context, CSBD is most likely to come to clinical attention when it is causing significant distress or relationship disruption (for example, a man who is spending many hours daily viewing pornography on his smartphone, is being caught by his wife, and is genuinely unable to stop despite wanting to). The clinical approach involves assessment of the severity of functional impairment, exploration of the psychological functions the behavior serves (escape from anxiety? compensation for relationship dissatisfaction? simple learning-based habituation?), and treatment drawing on the same CBT and motivational principles applied to other behavioral addictions.

CHAPTER FORTY-THREE: PUBLIC HEALTH AND POLICY DIMENSIONS OF SUBSTANCE USE IN BANGLADESH

43.1 The Legal Framework: The Narcotics Control Act and Its Limitations

The primary legal framework governing substance use in Bangladesh is the Narcotics Control Act of 1990 (with subsequent amendments), which classifies narcotics and psychotropic substances into schedules, prohibits their manufacture, trafficking, possession, and use without authorization, and establishes criminal penalties for violations. The Act is supplemented by the Bangladesh Narcotics Control Act of 2018, which introduced some updates including provisions for the treatment and rehabilitation of drug users rather than purely their criminal punishment.

The current legal framework has several important limitations from a public health perspective. The emphasis on criminal punishment for drug use (possession of even small amounts of drugs can result in arrest and imprisonment) has well-documented harmful public health consequences: it drives drug use underground, reduces the likelihood of drug users seeking health care (for fear of arrest), increases the stigma of drug use disorders, creates barriers to accessing evidence-based treatment, and fills prisons with people who need health care rather than punishment. The populations most affected by criminalization are the least powerful: poor, young, and socially marginalized drug users, while the drug supply chain, controlled by organized crime networks, is far less effectively disrupted.

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There is a growing global movement toward decriminalization of personal drug use, reflecting the evidence that decriminalization does not increase drug use while it substantially reduces the harms associated with criminalization. Portugal's experience of decriminalizing the personal use of all drugs in 2001 has been the most widely studied example: following decriminalization, Portugal redirected resources from criminal punishment to treatment and harm reduction services, with the result that drug-related HIV infections, drug-related deaths, and rates of drug use among young people all fell significantly. Several other countries have moved in similar directions, and the WHO has explicitly called for the decriminalization of drug use as a public health measure.

In Bangladesh, the decriminalization debate is nascent. The 2018 Narcotics Control Act represented a modest step toward a health-oriented approach by emphasizing treatment and rehabilitation as alternatives to criminal punishment for drug users (though criminal penalties remain). A full decriminalization of personal use is politically and culturally challenging in Bangladesh given the religious and social values attached to the prohibition of intoxicants, but incremental steps toward a more health-oriented and less punitive approach to drug users (as distinct from traffickers) are both feasible and urgently needed.

43.2 The Treatment System for Substance Use Disorders in Bangladesh

The formal treatment system for substance use disorders in Bangladesh consists of a small number of government facilities and a larger, heterogeneous network of private and NGO facilities.

The government treatment infrastructure includes the National Institute of Mental Health (NIMH) and its addiction medicine unit in Dhaka, addiction treatment units at selected general hospitals and psychiatric hospitals (including the National Institute of Mental Health's addiction medicine facility and addiction units at Dhaka Medical College Hospital and BSMMU), and the Central Treatment Center (CTC) operated by the Department of Narcotics Control, which provides residential detoxification and rehabilitation services.

The private sector includes a growing number of private psychiatric hospitals and addiction clinics, primarily in Dhaka, that offer detoxification and rehabilitation services. The quality of these facilities varies widely: some provide evidence-based treatment with trained staff and appropriate facilities, while others are poorly regulated and may provide ineffective or even harmful care.

The NGO sector includes several organizations providing addiction treatment and harm reduction services, with a particular concentration in Dhaka. The Dhaka Ahsania Mission's drug treatment program is among the oldest and most established. ICDDR,B has operated harm reduction programs for people who inject drugs, focusing on HIV prevention through needle and syringe programs and OST provision. Several faith-based organizations operate residential rehabilitation centers, often drawing on spiritual and religious frameworks for recovery.

The residential rehabilitation facilities in Bangladesh, including government, private, and NGO facilities, have been the subject of significant human rights concern. Reports from various

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human rights organizations, including Human Rights Watch, have documented conditions in some residential facilities that include physical abuse, arbitrary detention (including of people who have not consented to treatment and who have been forcibly admitted by families), inadequate food and medical care, and the use of physical restraints. The absence of effective regulatory oversight of the residential rehabilitation sector in Bangladesh is a serious problem that requires urgent attention.

43.3 Harm Reduction: Evidence, Ethics, and Implementation in Bangladesh

Harm reduction is an approach to substance use that aims to reduce the adverse health, social, and economic impacts of drug use without necessarily requiring abstinence or drug use cessation as a precondition for assistance. Harm reduction programs include needle and syringe programs (NSPs), opioid substitution therapy (OST), naloxone distribution, drug checking services (providing users with information about the composition and purity of substances they intend to use), and supervised consumption facilities (safe injection sites).

The evidence for harm reduction is robust and consistent: NSPs reduce HIV transmission among PWID without increasing drug use or attracting new initiates to drug use. OST reduces mortality, illicit drug use, and HIV risk among people with opioid use disorder. Naloxone distribution reduces overdose deaths. These effects have been demonstrated across multiple countries and settings, and the cost-effectiveness of harm reduction is among the best-documented in all of public health.

The ethical case for harm reduction rests on several principles: the principle of respecting the autonomy of people who use drugs and their right to make decisions about their own health; the principle of reducing suffering (pragmatically, even if the ultimate goal of abstinence is not achievable in the short term, reducing HIV transmission, overdose deaths, and disease burden is better than doing nothing); and the recognition that the moral prohibition of drug use does not translate automatically into a moral obligation to allow people to suffer and die from preventable harms while awaiting their willingness to stop.

In Bangladesh, harm reduction has been implemented on a very limited scale, primarily through ICDDR,B's targeted interventions for PWID in Dhaka, which include NSPs, OST, condom distribution, and HIV testing and counseling. Coverage is dramatically inadequate relative to the estimated number of PWID. Scaling up harm reduction in Bangladesh requires addressing both resource constraints and the significant political and cultural resistance that exists to providing any form of assistance to drug users without the precondition of abstinence. This resistance partly reflects the Islamic ethical framework within which policymakers operate, which may be in tension with a purely instrumental harm reduction approach. Engaging with Islamic scholars and ethicists to develop a framework for harm reduction that is consistent with Islamic values of preserving life and health (the maslaha principle) is an important bridge-building task.

43.4 Prevention of Substance Use Disorders: Evidence and Programs

Effective prevention of substance use disorders operates at multiple levels: universal prevention (directed at the entire population), selective prevention (directed at groups at elevated risk), and

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indicated prevention (directed at individuals who already show early signs of problematic substance use).

Universal prevention programs in school settings are among the most widely studied. The evidence base distinguishes between effective and ineffective program designs. Drug information programs that simply provide information about drug effects are generally not effective and may even increase curiosity-driven use. Fear-based and moralizing approaches (including some programs based on "just say no" messaging) have shown no evidence of effectiveness in controlled evaluations. However, social competency programs that teach life skills (decision-making, interpersonal skills, resistance to peer pressure), combined with accurate information about social norms (correcting overestimates of how many peers use drugs), have shown consistent evidence of effectiveness in reducing initiation of tobacco, alcohol, and illicit drug use.

The Life Skills Training (LST) program, developed by Gilbert Botvin and extensively evaluated, is among the most robustly evidence-based universal prevention programs. It combines drug resistance skills, personal self-management skills, and social skills training in a school-based curriculum that has demonstrated significant reductions in tobacco, alcohol, and drug use initiation in multiple randomized trials in diverse settings. Adaptations of LST and similar programs for Bangladeshi school settings are needed and would represent a valuable investment in substance use prevention.

Family-based prevention programs targeting parents of adolescents, helping them to improve family communication, monitor adolescent behavior, and establish appropriate rules about substance use, have also shown effectiveness in reducing adolescent substance use initiation. In Bangladesh, where family authority is generally high and parents have significant influence over adolescent behavior, family-focused prevention programs may be particularly effective.

Addressing the social determinants of substance use is ultimately the most powerful prevention strategy: reducing poverty, providing educational and economic opportunities for young people, addressing gender inequality (which creates specific vulnerabilities to substance use for both women and men), and reducing the social stresses associated with urbanization and migration would reduce the demand for substances as coping mechanisms far more effectively than any individual-level prevention program. This is not to say that individual-level programs are unimportant, but that their effects will be modest if the underlying social conditions that drive substance use are not also addressed.

CHAPTER FORTY-FOUR: SUBSTANCE USE DISORDERS AND COMORBIDITY - THE DUAL DIAGNOSIS CHALLENGE

44.1 The Pervasiveness of Psychiatric Comorbidity in Substance Use Disorders

Among the most important and clinically challenging aspects of substance use disorders is their frequent co-occurrence with other psychiatric conditions, what is often termed "dual diagnosis"

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or "co-occurring disorders." The rates of psychiatric comorbidity in people with substance use disorders are dramatically higher than in the general population, and this comorbidity has profound implications for assessment, treatment planning, and outcomes.

In Bangladeshi clinical settings, the most commonly encountered comorbidities in people with substance use disorders are depression, anxiety disorders (including PTSD in some populations), ADHD (particularly in adolescent and young adult populations), personality disorders (particularly antisocial and borderline personality disorder), and psychosis (both substance-induced and independently occurring). The directionality of the relationship between substance use and these conditions is complex and varies by condition.

For depression and anxiety, the relationship with substance use is bidirectional and mutually reinforcing. Substance use disorders increase the risk of developing depression and anxiety through the neurobiological effects of chronic substance use on the brain's reward and stress systems. Conversely, depression and anxiety increase the risk of developing substance use disorders through the mechanism of self-medication: people who use substances to manage negative emotional states develop conditioned negative reinforcement that perpetuates use. In clinical assessment, the key question is whether the depression or anxiety was present before the substance use disorder began, which suggests a primary independent condition requiring specific treatment, or whether it developed in the context of substance use and may resolve with sustained abstinence.

In Bangladesh, self-medication is a particularly common pathway to substance use, particularly for cannabis and opioids. Many patients report that they began using cannabis to manage anxiety or insomnia, or that they began using opioids to manage chronic pain (including the musculoskeletal pain common among manual laborers) or to manage the psychological consequences of trauma. This self-medication pathway has treatment implications: when the substance use disorder is effectively treated, the underlying anxiety, depression, or pain condition becomes clinically prominent and requires its own targeted treatment.

44.2 ADHD and Substance Use Disorders: An Important but Under-recognized Comorbidity

Attention deficit hyperactivity disorder (ADHD) is among the most important and most under-recognized risk factors for substance use disorder in young people. The epidemiological relationship is robust: people with ADHD have two to four times the risk of developing a substance use disorder compared to individuals without ADHD, and a substantial proportion of adults with substance use disorders have an undiagnosed underlying ADHD. The specific pathway from ADHD to substance use disorder involves multiple mechanisms: impulsivity (a core feature of ADHD) reduces the threshold for initiating substance use and for escalating use despite negative consequences; the negative emotional states associated with ADHD (frustration, low self-esteem, academic failure) motivate substance use as self-medication; and the attentional deficits of ADHD reduce the person's capacity to engage with treatment.

In Bangladesh, ADHD is dramatically under-diagnosed and undertreated in both children and adults. Awareness of ADHD among both the general public and health professionals is low; stimulant medications (methylphenidate, amphetamine salts) which are first-line treatment for

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ADHD in most countries are in some cases not available or are poorly regulated in Bangladesh; and the stigma associated with mental health conditions in Bangladesh applies to ADHD as it does to other conditions. The consequence is that a large population of young people in Bangladesh is growing up with undiagnosed and untreated ADHD, struggling in school, developing behavioral problems and poor self-esteem, and then in adolescence and early adulthood encountering substance use as a route to relief.

The treatment of ADHD comorbid with substance use disorder requires an integrated approach. Treating the ADHD with non-stimulant medications (atomoxetine or extended-release guanfacine are appropriate first-line options in patients with active substance use disorders, since stimulants carry risk of misuse) or with appropriately monitored stimulants in patients with sustained abstinence can substantially improve outcomes for the substance use disorder by addressing the underlying impulsivity and emotional dysregulation that drive substance use.

44.3 Antisocial Personality Disorder and Substance Use Disorders

Antisocial personality disorder (ASPD) is characterized by a pervasive pattern of disregard for and violation of the rights of others, beginning in childhood or adolescence (as conduct disorder) and continuing into adulthood. ASPD has the highest comorbidity rate with substance use disorders of any personality disorder: the majority of people with ASPD meet criteria for at least one substance use disorder, and a substantial proportion of people in addiction treatment settings meet criteria for ASPD.

The relationship between ASPD and substance use disorder is complex and involves shared genetic risk factors (both conditions are heritable and share genetic vulnerabilities related to impulsivity and reward processing), early environmental risk factors (childhood maltreatment, neglect, and exposure to violence are risk factors for both), and bidirectional interactions. The impulsivity, risk-taking, sensation seeking, and poor long-term outcome valuation that characterize ASPD all increase the likelihood of initiating substance use and escalating to disorder.

In the Bangladeshi clinical context, patients with ASPD and comorbid substance use disorder are among the most challenging to treat. Their distrust of authority (including clinical authority), their limited empathy, their poor treatment retention, and the complex forensic dimensions of their presentations (many have histories of criminal activity related to substance procurement) create significant clinical difficulties. Treatment requires a highly structured approach that sets clear boundaries, uses consistent contingencies, and focuses on concrete behavioral goals rather than on insight or emotional processing. Criminal justice involvement, while not primarily a treatment intervention, may provide a degree of external structure that facilitates treatment engagement.

CHAPTER FORTY-FIVE: ASSESSMENT AND INVESTIGATION OF SUBSTANCE USE DISORDERS IN BANGLADESH

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45.1 The Clinical Assessment of Substance Use: A Systematic Approach

Comprehensive assessment of substance use disorders is both an art and a science. The art lies in creating the therapeutic alliance and the safe, non-judgmental clinical space within which the patient can honestly disclose a highly stigmatized aspect of their behavior. The science lies in systematically gathering the biological, psychological, and social information required for accurate diagnosis, risk stratification, and treatment planning.

The assessment should begin with taking a detailed substance use history, covering all substances ever used, the age of first use of each, the pattern of use (frequency, quantity, route of administration), the course of use over time (including periods of escalation, abstinence, and relapse), the consequences of use (physical health, mental health, relationships, employment, finances, legal), previous treatment episodes and their outcomes, and the current severity of the substance use disorder. In Bangladesh, where patients are very unlikely to have been previously assessed by a psychiatrist, this history may be the first time anyone has systematically inquired about substance use, and it requires patience, skill, and genuine non-judgment.

The assessment of craving (the intensity of the urge to use the substance) can be performed with validated instruments such as the Visual Analogue Scale for Craving or the Penn Alcohol Craving Scale (adapted for the relevant substance). The Severity of Dependence Scale (SDS) provides a brief validated measure of the degree of dependence across substance classes. The CAGE questionnaire (Cutting down, Annoyance, Guilt, Eye-opener) is a rapid screening tool for alcohol problems in non-specialist settings. The Alcohol Use Disorders Identification Test (AUDIT) provides a more comprehensive assessment of alcohol consumption and related problems for clinical use. The Drug Abuse Screening Test (DAST-10) screens for drug use disorders across substances.

The medical assessment of a patient with a substance use disorder must address several dimensions. A full physical examination is essential, with particular attention to the organ systems most commonly affected by the specific substance used. For alcohol users, this includes examination for signs of liver disease (hepatomegaly, jaundice, spider angiomata, palmar erythema, peripheral neuropathy), cardiovascular disease (hypertension, cardiomegaly, arrhythmias), and nutritional deficiency (peripheral neuropathy, ophthalmoplegia). For opioid injectors, examination should include inspection of injection sites (for thrombosis, abscess, and signs of bacterial infection), assessment of cardiac valves (for infective endocarditis, which is common in PWID), and examination for lymphadenopathy and oral health (reflecting the general health neglect associated with severe opioid use disorder).

45.2 Laboratory Investigation in Substance Use Disorders

Laboratory investigation serves several purposes in the assessment and management of substance use disorders: it confirms substance use, it identifies medical complications, it monitors organ function during treatment, and it may provide a baseline for evaluating treatment response.

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Urine drug screening (UDS) is the most widely used diagnostic tool for confirming substance use. Immunoassay-based UDS panels are available in Bangladesh at NIMH and some tertiary hospitals and can detect multiple substances including opioids, cannabinoids, amphetamines (including methamphetamine and the amphetamine component of yaba), benzodiazepines, cocaine (rare in Bangladesh), and cotinine (the major metabolite of nicotine). Detection windows vary by substance and by the concentration and route of use: cannabis is detectable for days in occasional users and weeks in heavy daily users, whereas methamphetamine is detectable for three to five days after use. False positives can occur with various over-the-counter medications (several antihistamines can cross-react with amphetamine immunoassays, and some NSAIDs and other drugs can cross-react with other panels), and clinical interpretation of UDS results should always take into account the clinical context.

Alcohol breathalyzer testing measures the concentration of alcohol in exhaled air, which directly reflects blood alcohol concentration. It is a rapid, non-invasive, and reasonably accurate test for current intoxication and is used in traffic law enforcement and in clinical settings for monitoring abstinence. Serum alcohol level provides direct measurement of blood alcohol concentration when accuracy is required.

Blood tests essential in the assessment of alcohol use disorder include liver function tests (particularly gamma-glutamyltransferase, or GGT, which is elevated in 60 to 80 percent of heavy drinkers and is a useful marker of recent heavy drinking; and AST:ALT ratio, which if greater than 2:1 suggests alcoholic hepatitis rather than other forms of liver disease), full blood count (for macrocytosis, which reflects folate deficiency and the direct effect of alcohol on red blood cell production), and carbohydrate-deficient transferrin (CDT), a more specific marker of heavy drinking that remains elevated for two to three weeks after cessation.

For people who inject drugs, testing for bloodborne viruses is essential: HIV antibody test (with pre- and post-test counseling), hepatitis C antibody and HCV RNA PCR (to distinguish past from current infection), and hepatitis B surface antigen and antibodies. In Bangladesh, where HBV is endemic, vaccination against HBV should be offered to PWID who are not already immune.

Neuropsychological assessment is indicated when there is clinical concern about the cognitive effects of chronic substance use, particularly in patients with a history of heavy alcohol use (where Korsakoff's syndrome, alcoholic dementia, or more subtle cognitive impairment needs to be characterized) or heavy methamphetamine use (where frontal executive dysfunction may affect treatment engagement). A brief battery covering attention and working memory, verbal learning and memory, and executive function (such as the Mini-Mental State Examination supplemented by the Montreal Cognitive Assessment or the Brief Assessment of Cognition in Schizophrenia adapted for addiction populations) provides clinically useful information.

CHAPTER FORTY-SIX: TREATMENT SYSTEMS AND PROTOCOLS FOR SUBSTANCE USE DISORDERS IN BANGLADESH

46.1 The Stepped Care Model Applied to Substance Use Disorders

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The stepped care model, developed in the context of primary care mental health by WHO and others, is particularly applicable to the treatment of substance use disorders in Bangladesh given the extreme shortage of specialist resources. In this model, treatment is organized in ascending levels of intensity and specialization, with each patient receiving the lowest-intensity intervention that is likely to be effective for their level of severity, and step-ping up to more intensive interventions only when lower-intensity ones have proven insufficient.

The first step is universal screening and brief intervention in primary care and general practice settings. The "Screening, Brief Intervention, and Referral to Treatment" (SBIRT) model, which has strong evidence from multiple international randomized trials, involves systematic screening for hazardous and harmful substance use using brief validated instruments (such as the AUDIT for alcohol), followed by a brief motivational intervention (one to three sessions) for those with hazardous or harmful use, and referral to specialist treatment for those with severe dependence. SBIRT has been shown to reduce alcohol consumption and alcohol-related harms in a range of primary care settings in low- and middle-income countries. Its implementation in Bangladesh primary care requires training of primary care providers in screening tools and brief motivational techniques, and the development of referral pathways to specialist services.

The second step is outpatient specialty addiction treatment, providing more intensive assessment, pharmacotherapy, individual and group counseling, and case management for patients with moderate to severe substance use disorders who do not require residential treatment. Outpatient specialty addiction treatment is the appropriate level of care for the majority of patients with substance use disorders who have a stable living environment, adequate social support, and no severe complicating factors.

The third step is intensive outpatient programs (IOPs) or partial hospitalization programs, providing multiple hours of structured treatment per week (typically nine or more hours per week for IOPs) for patients who need more support than weekly outpatient sessions but do not need residential care. IOPs allow patients to continue living at home and maintaining family roles while receiving intensive treatment.

The fourth step is residential rehabilitation, providing structured 24-hour therapeutic environments for patients with severe substance use disorders who need residential support for medical detoxification, who lack a safe and supportive living environment in the community, or who have failed at lower levels of care. Residential programs typically last 28 to 90 days or longer. In Bangladesh, most of the treatment capacity that exists is in the residential sector, while the outpatient and primary care levels are severely underdeveloped, which is the inverse of what evidence-based stepped care models recommend.

46.2 Detoxification: Principles and Protocols

Detoxification (or medically supervised withdrawal management) refers to the management of the acute physiological withdrawal syndrome following cessation of substance use. Detoxification is not treatment for the substance use disorder per se; it is a medical management procedure that reduces the risks of withdrawal and that, ideally, creates a foundation for subsequent rehabilitation. A person who completes detoxification without receiving ongoing

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psychosocial and pharmacological treatment for the underlying addiction has very high rates of relapse, often within days to weeks.

The protocols for detoxification are substance-specific and will be summarized here before being described in detail in the substance-specific chapters.

For alcohol withdrawal, the protocol involves assessment of severity using the CIWA-Ar, thiamine supplementation (mandatory before any glucose-containing fluids), benzodiazepine administration (using either symptom-triggered or fixed-schedule dosing depending on the severity and the clinical setting), monitoring of vital signs and clinical status, and management of complications including seizures (with benzodiazepines as first-line treatment) and delirium tremens (with high-dose benzodiazepines, ideally in a high-dependency unit).

For opioid withdrawal, the protocol involves choice of management approach (symptomatic management with alpha-2 agonists such as clonidine, or opioid agonist substitution with buprenorphine or methadone), with symptomatic management of specific withdrawal features (loperamide for diarrhea, mebeverine or hyoscine for abdominal cramps, NSAIDs or paracetamol for pain). Opioid agonist-assisted detoxification with buprenorphine is both more comfortable and more effective at promoting retention in treatment than purely symptomatic management with clonidine, and it is the preferred approach for opioid detoxification where buprenorphine is available.

For stimulant (yaba/methamphetamine) withdrawal, there is no established pharmacological protocol because no specific pharmacological agent has been shown to reliably reduce stimulant withdrawal symptoms or improve treatment retention. Management is primarily symptomatic: benzodiazepines for severe agitation and insomnia (used judiciously to avoid benzodiazepine misuse), antipsychotics for psychotic features, supportive care, and preparation for engagement in ongoing rehabilitation.

For benzodiazepine withdrawal (particularly important in Bangladesh given the widespread inappropriate chronic prescribing of benzodiazepines described in Part Three), the protocol involves conversion to an equivalent dose of a long-acting benzodiazepine (typically diazepam), followed by gradual dose reduction at a rate of approximately 10 percent per week, adjusted to the patient's tolerance of withdrawal symptoms. Rapid benzodiazepine discontinuation carries the risk of severe withdrawal including seizures, and must never be attempted without medical supervision.

46.3 The Role of Family in Substance Use Disorder Treatment in Bangladesh

In the Bangladeshi social context, the family is not simply a background social variable in substance use disorder treatment: it is a central clinical actor whose involvement can profoundly affect treatment engagement, retention, and outcomes in both positive and negative directions.

On the positive side, family support is among the strongest predictors of treatment retention and long-term recovery in substance use disorders globally. A family that understands addiction as a health condition requiring treatment rather than a moral failing requiring punishment, that

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provides practical support during treatment (transport to appointments, financial assistance, encouragement), that maintains appropriate boundaries without enabling continued drug use (the concept of "enabling behavior"), and that participates actively in family therapy can dramatically improve treatment outcomes.

On the negative side, family dynamics can also perpetuate substance use. "Enabling behavior" refers to the well-intentioned but counterproductive actions of family members that inadvertently reduce the negative consequences of drug use for the person using (for example, giving money to a person with heroin use disorder who they know will spend it on heroin, to avoid seeing them in withdrawal; or making excuses for an alcohol-using family member's absences from work). Enabling behavior sustains drug use by preventing the natural consequences that might otherwise motivate change. Family members often engage in enabling behavior out of love and distress rather than ignorance, and sensitive psychoeducation about the concept and its effects, combined with alternative skills for supporting recovery without enabling, is a core component of family intervention.

Family therapy approaches specifically designed for substance use disorders include Community Reinforcement and Family Training (CRAFT), which teaches family members to use positive reinforcement for non-using behavior, to allow natural consequences to occur, and to engage the person with a substance use disorder in treatment. CRAFT has strong evidence of effectiveness in engaging treatment-resistant people with substance use disorders and in reducing the distress of their family members. Although CRAFT has not been specifically evaluated in Bangladesh, its principles are applicable to the Bangladeshi family context and could be implemented by trained counselors in family-focused addiction programs.

CHAPTER FORTY-SEVEN: PHILOSOPHICAL, ETHICAL, AND CULTURAL CONTROVERSIES IN ADDICTION

47.1 Is Addiction a Brain Disease? The Ongoing Philosophical Debate

The designation of addiction as a "chronic brain disease" by major medical organizations has been enormously influential but also genuinely controversial. The debate is not simply academic: it has implications for how people with addiction are perceived and treated by themselves, by their families, by health systems, by legal systems, and by society at large.

The strongest argument for the brain disease model is that it accurately reflects the neuroscience: chronic substance use does produce structural and functional changes in the brain, particularly in the circuits governing reward, motivation, and impulse control, and these changes are real, measurable, and clinically significant. The brain disease model reduces stigma by positioning addiction as a health condition rather than a character defect, and this reduction in stigma is associated with better treatment engagement and better outcomes. And the brain disease model justifies the allocation of research and clinical resources to addiction as a legitimate health priority.

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The counterargument is not that the brain changes do not exist, but that describing addiction as a "disease" may overclaim what the neuroscience shows. The brain changes are real, but they do not abolish agency: people with addictions make decisions continuously, including decisions to stop using, and the majority of people who meet lifetime criteria for a substance use disorder achieve remission without formal treatment. The language of disease implies a passive victim of a pathological process, which may undermine the very sense of agency that is essential for recovery. The philosopher Neil Levy has argued for what he calls a "choice model" of addiction that acknowledges both the genuine constraints on choice imposed by neurobiological changes and the genuine agency retained by people with addictions, avoiding both the over-attribution of responsibility to moral failure and the under-attribution of agency implied by a strict disease model.

A 2025 commentary in the journal Drug and Alcohol Dependence, reviewing thirty years of the brain disease model of addiction, concluded that the model has been invaluable in establishing addiction medicine as a legitimate medical specialty and in motivating neuroscience research, but that its strict application has also contributed to a relative neglect of the social, economic, and political determinants of addiction, and that a more complete framework must integrate neuroscience with social science, economics, and ethics. This conclusion, which essentially calls for a more genuinely biopsychosocial understanding of addiction, is consistent with the integrative approach advocated throughout this textbook.

47.2 Harm Reduction and Islamic Ethics: Navigating the Tension

The tension between harm reduction approaches and Islamic ethics is genuine and should not be glossed over. Islamic law clearly prohibits intoxicants, and providing assistance that may be interpreted as facilitating or tolerating drug use (even when the goal is to reduce harm from an ongoing behavior rather than to endorse it) may conflict with the religious obligations of Muslim health professionals and policymakers.

The Islamic ethical framework for resolving apparent conflicts between harm reduction and religious prohibition draws on several principles. The principle of darurah (necessity) holds that prohibited things may be permitted when necessary to avert a greater harm. The principle of maslaha (public interest or welfare) holds that actions serving the public welfare are commendable even when they would otherwise be avoided. And the principle of la darara wa la dirar (do no harm) is a fundamental Islamic medical ethics principle applicable across contexts.

Applying these principles to harm reduction in the Bangladeshi context: providing naloxone to reverse opioid overdose prevents death (a life preserved is a fundamental Islamic value), and the Islamic principle of darurah permits this even if it involves interacting with a person who is in a state of intoxication. Providing needle exchange services to reduce HIV transmission prevents a communicable disease that will affect not only the drug user but potentially their family and future sexual partners: the prevention of HIV transmission serves the maslaha of the Muslim community. Providing buprenorphine-assisted treatment reduces heroin use, criminal behavior, and family destruction: the harms being prevented are significant and the treatment is not endorsing drug use but treating a medical condition.

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This analysis is not universally accepted within Islamic scholarship, and there are scholars who would reject these arguments. But there is a growing body of Muslim scholars, public health professionals, and clinicians who accept harm reduction interventions as consistent with Islamic values when these are properly framed as medical necessity, public health protection, and the prevention of greater harm. Building alliances with progressive Islamic scholars and integrating Islamic ethical reasoning into the advocacy for harm reduction scale-up in Bangladesh is an important strategic priority.

47.3 Gender, Addiction, and Stigma in Bangladesh

The experience of substance use disorder is profoundly gendered in Bangladesh, and this gendering has important clinical implications. The vast majority of people receiving treatment for substance use disorders in Bangladesh are men, reflecting the higher prevalence of substance use disorders among men, but also reflecting the far greater barriers to treatment-seeking faced by women with substance use disorders.

Women in Bangladesh who use substances face layers of stigma that are more intense than those faced by men: in addition to the general stigma of addiction, they face stigma as women who have violated social expectations of female propriety, and the consequences of disclosure (for their marriages, their children's futures, and their standing in the community) are often far more severe than for men. This extreme stigma drives substance-using women to conceal their use, to avoid seeking help, and to remain in unsafe situations (including unsafe use practices) rather than risk disclosure.

The specific patterns of substance use among women in Bangladesh differ from those among men. Female tobacco use, particularly smokeless tobacco, is very common in rural Bangladesh and is often not recognized as a form of substance use. Among clinical populations, women presenting for addiction treatment in Bangladesh are more likely to have comorbid depression, PTSD, and histories of sexual and physical victimization, and more likely to have initiated substance use as a response to these experiences (the self-medication pathway). Treatment approaches for women with substance use disorders must address these gender-specific vulnerabilities and must provide a safe and non-judgmental environment where women can disclose the full complexity of their experience.

The intersection of substance use and HIV risk among female sex workers in Bangladesh deserves special attention. Female sex workers have higher rates of substance use (including yaba, phensedyl, and in some settings heroin) than the general female population, and substance use is associated with reduced condom negotiation capacity and therefore increased HIV risk. Programs for female sex workers that integrate substance use treatment with sexual health services and HIV prevention are needed and largely absent in Bangladesh.

47.4 The Recovery Movement: Voices of Lived Experience in Bangladesh

The recovery movement, which grew out of the peer support traditions of Alcoholics Anonymous and Narcotics Anonymous and which is now a significant global force in addiction policy and practice, is nascent in Bangladesh but deserves to be discussed and encouraged.

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The core insight of the recovery movement is that people who have experienced addiction and achieved recovery have a unique knowledge and credibility that professionals do not have, and that this knowledge is clinically and socially valuable. Recovery coaches, peer support workers, and recovery community organizations have demonstrated effectiveness in improving treatment engagement, retention, and outcomes, and in reducing stigma through the visibility of recovery in communities where addiction has been associated only with destruction and shame.

Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) operate in a small number of groups in Dhaka and a few other cities in Bangladesh, primarily serving English-speaking populations and non-Muslim minorities. The adaptation of twelve-step models for the majority Muslim Bangladeshi population, including engagement with Islamic spiritual frameworks, is a significant opportunity. The fundamental twelve-step concept of surrendering to a "higher power" and drawing on spiritual resources for recovery is deeply compatible with the Islamic concept of tawakkul (reliance on God) and the turning toward God (tawbah) as a source of strength in times of difficulty. Several international Muslim twelve-step organizations (including Millati Islami, established in the United States) have developed twelve-step adapted frameworks that explicitly integrate Islamic spirituality, and their approaches may be adaptable for the Bangladeshi context.

CHAPTER FORTY-EIGHT: COMPREHENSIVE CASE STUDIES FOR PART FOUR

Case Study 48.1: Complex Yaba Use Disorder with Comorbid Depression in a Garment Worker

Shahnaz is a 26-year-old woman who works in a garment factory in Ashulia, Dhaka, and is brought to the NIMH outpatient clinic by her younger sister, who is extremely worried about her. Shahnaz has been using yaba for approximately 18 months, having been introduced to it by her supervisor at work, who initially gave it to her for free, describing it as "energy medicine" that would help her complete her production targets. She now uses two to three tablets daily to maintain the work pace demanded in the factory, buying them herself from a dealer near the factory gate.

Over the past three months, her mood has deteriorated markedly: she is sleeping very poorly (lying awake with racing thoughts, or sleeping for only two to three hours and waking in a state of agitation), eating very little, feeling persistently low in mood, and has told her sister that "I want to disappear." She is performing poorly at work despite the yaba use, which is no longer giving her the energy boost it initially produced. She has missed multiple shifts, which has put her income at risk. Her family does not know she uses yaba, and she is terrified of the shame of disclosure.

Mental state examination reveals a thin, exhausted-looking young woman in poor nutritional state. She is anxious and guarded but establishes rapport after twenty minutes. Her mood is persistently low. She has passive suicidal ideation ("I wish I wasn't here") without current intent or plan. She has sleep-onset and sleep-maintenance insomnia with early morning waking. Her

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concentration is poor. She has no psychotic features. Urine toxicology is positive for amphetamines.

The assessment establishes: severe yaba use disorder (all major DSM criteria present), moderate to severe major depressive disorder (PHQ-9 score 19, suicide risk requiring monitoring), malnutrition, and occupational impairment. The history suggests a pattern of initiation driven by occupational demands and normalized by workplace culture (giving yaba to workers to increase productivity is a recognized informal practice in some Bangladeshi garment factories), followed by dependence.

The clinical management plan addresses the following dimensions:

Immediate safety assessment and safety planning around suicidal ideation. Shahnaz is not in immediate danger but requires regular monitoring. A safety plan is developed, with her sister as the primary contact. She is given information about crisis resources and the NIMH emergency number.

Medical assessment: Blood tests for nutritional deficiency (serum albumin, CBC for anemia, serum B12 and folate, thyroid function), weight and BMI, blood pressure and heart rate. Nutritional supplementation (oral iron, folate, multivitamin) is initiated given her dietary inadequacy.

Pharmacological treatment: The choice of antidepressant in the context of active yaba use requires care. Antidepressants with noradrenergic activity (including bupropion) are generally avoided in patients with active stimulant use because of potential cardiovascular interactions. Escitalopram 10 mg daily is initiated for depression, with careful explanation. Melatonin 3 to 5 mg is given for sleep initiation to reduce the reliance on yaba for wakefulness and the associated crash.

Psychosocial intervention: Motivational interviewing is conducted to explore Shahnaz's ambivalence about yaba cessation, connecting her stated values (supporting her family, keeping her job, her own health) with the impact of yaba on each. She identifies the occupational pressure to maintain high production targets as the primary driver of continued yaba use and the genuine structural difficulty of stopping while facing these same pressures. A plan is developed in which she will seek a brief medical leave of absence from work (with a letter from NIMH) to allow an initial period of stabilization off yaba.

Psychoeducation about the connection between yaba use and her depression is a central component: she is clearly explained that the "crash" following yaba use and the neurobiological effects of chronic methamphetamine exposure on mood are direct contributors to her depression, and that her mood is likely to improve substantially with sustained abstinence alongside the antidepressant.

At the six-week follow-up, Shahnaz is no longer using yaba (confirmed by urine toxicology). She reports significant improvement in sleep (now sleeping five to six hours, though still not feeling fully rested), improved appetite, and a reduction in depressive symptoms (PHQ-9 score 11). She

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has returned to work on reduced hours and is managing. She reports no longer having suicidal ideation. The escitalopram is continued and the six-week review confirms she is on a trajectory of improvement.

This case illustrates the importance of gender-sensitive assessment and treatment of substance use disorders in Bangladeshi women, the occupational contexts that drive substance use, the management of comorbid depression and stimulant use disorder, and the psychoeducation around stimulant-induced depression.

Case Study 48.2: Alcohol Use Disorder with Wernicke's Encephalopathy in a Dhaka Professional

Nurul is a 45-year-old senior civil servant who is brought to Dhaka Medical College Hospital by his wife following a fall at home in which he was unable to walk properly and was confused. His wife discloses that Nurul has been drinking heavily for approximately ten years, typically consuming one to two bottles of imported whiskey daily at home. He comes from a Hindu minority family, which contextualizes his alcohol use within a community for whom alcohol is not religiously prohibited.

On examination, Nurul is confused (he is disoriented to time and partially to place), has bilateral horizontal nystagmus, and a pronounced ataxic gait. His blood pressure is 155/98, heart rate 104 per minute. He is diaphoretic. His CIWA-Ar score, calculated with the assistance of his wife (who provides the history), is 22, indicating severe alcohol withdrawal. He has signs of peripheral neuropathy (reduced vibration sense and light touch in the distal lower limbs) and palmar erythema.

The immediate management recognizes this as a medical emergency with two simultaneous priorities: management of severe alcohol withdrawal (risk of seizures, delirium tremens) and management of Wernicke's encephalopathy.

Emergency thiamine: Thiamine 200 mg IV is administered immediately before any glucose-containing fluids. This is the most critical immediate action.

Withdrawal management: Diazepam 10 mg IV is given immediately for the severe withdrawal, followed by a fixed-schedule diazepam regimen (diazepam 10 mg four-hourly for 24 hours, then tapered). The patient is admitted to a medical ward with close monitoring.

Investigations: Blood alcohol level (low, consistent with several hours since last drink), LFTs (markedly elevated GGT, AST:ALT ratio 2.8:1 consistent with alcoholic hepatitis), FBC (macrocytosis, mild thrombocytopenia suggesting hepatic involvement), coagulation studies (mildly prolonged PT, early hepatic synthetic dysfunction), electrolytes (hypomagnesaemia, hypokalaemia requiring correction), ECG (sinus tachycardia, no QTc prolongation), CT brain (to exclude subdural haematoma from the fall; normal).

Course: Over 48 hours of IV thiamine, gradual benzodiazepine tapering, IV fluids, and electrolyte correction, Nurul's confusion gradually resolves, his nystagmus partially resolves,

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and his gait steadies. He has not developed delirium tremens or withdrawal seizures. By day four, he is alert and oriented.

On day five, when Nurul is clinically stable, the addiction psychiatry team holds an extended consultation with him and his wife. Nurul is clearly told that he has Wernicke's encephalopathy caused by thiamine deficiency from heavy chronic alcohol use, and that this is a serious condition that can lead to permanent memory impairment if he continues drinking. He is told about his liver results (early alcoholic hepatitis with early synthetic impairment) and the likely trajectory of these if he continues drinking (cirrhosis, liver failure). He is told that his peripheral neuropathy is also alcohol-related. He is genuinely shocked by the severity of his medical complications and is motivated to engage with treatment.

He is started on naltrexone 50 mg daily (with written advice to stop if he experiences nausea, and liver enzymes scheduled for monitoring) and thiamine 100 mg orally daily (for secondary prevention of Wernicke's). He is referred to an outpatient addiction service for motivational enhancement therapy and CBT. His wife is actively involved and agrees to attend family sessions. At the three-month follow-up, he reports no alcohol use (confirmed by undetectable GGT, which has normalized), improved energy, and improving memory. His LFTs have largely normalized.

This case illustrates the management of severe alcohol withdrawal, the recognition and emergency treatment of Wernicke's encephalopathy, the importance of thiamine before glucose, and the integration of medical management with addiction treatment and secondary prevention.

Case Study 48.3: Gaming Disorder in an Adolescent in Dhaka

Arif is a 16-year-old secondary school student from a middle-class family in Dhaka who is brought to the outpatient adolescent mental health clinic by his parents. His parents are alarmed by his school performance, which has declined from the top ten percent of his class to the bottom third over the past year, and by his behavior: he locks himself in his room for six to eight hours daily after school and at weekends playing PUBG Mobile, becomes severely agitated and aggressive when his phone or internet is removed, has stopped spending time with friends outside the gaming context, is sleeping only four to five hours per night (staying up until 2 to 3 AM gaming), and has lost 5 kg in weight due to neglected eating.

Arif himself is initially defensive and dismissive of his parents' concerns. He describes gaming as "my only stress relief" and attributes his declining performance to boredom with school rather than gaming. As the assessment proceeds with skilled motivational interviewing, he gradually discloses more: he has been struggling with intense anxiety in social situations since changing schools 18 months ago (coinciding with the onset of heavy gaming), the gaming provides him with social interaction in an environment where he feels competent and in control, and he has been using gaming to avoid the anxiety of face-to-face social situations with peers.

The assessment establishes: gaming disorder (ICD-11 criteria met: impaired control, increasing priority, continuation despite negative consequences including academic decline and conflict;

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12-month duration), probable social anxiety disorder as a comorbidity driving self-medicating gaming, and sleep disorder secondary to gaming-driven circadian disruption.

The treatment plan involves several elements. Psychoeducation is provided to Arif and his parents together about gaming disorder: the neurobiological basis (the reinforcement mechanisms that make gaming compulsive), its relationship with the anxiety he is experiencing (gaming provides both anxiolytic reward and avoidance of anxiety-provoking social situations, which perpetuates both the gaming and the anxiety), and the rationale for treatment. Importantly, the goal is not to eliminate gaming entirely (which would be unrealistic and unnecessary) but to reduce gaming to a level that is not interfering with sleep, academic performance, and social development.

A structured behavioral plan is developed with Arif's active participation (increasing his buy-in): gaming is limited to two hours daily after completion of homework, no gaming after 10 PM, phone in parents' room overnight. Arif identifies his own reasons for wanting to change (he values academic success and is genuinely worried about his exam results). The behavioral plan uses reward (parental positive feedback, planned activities Arif enjoys) for adherence rather than punishment for failure.

CBT is initiated for the underlying social anxiety: psychoeducation about social anxiety, challenging the cognitive distortions driving social avoidance, and graduated exposure to anxiety-provoking social situations (beginning with texting friends, then meeting one friend one-to-one, progressing to small group activities). As the social anxiety improves with CBT, Arif's drive to retreat into gaming diminishes.

At the three-month follow-up, Arif is adhering to the gaming limit on most days (with occasional weekend overruns), his school grades have begun to improve, he has renewed contact with two friends outside gaming, and his sleep has stabilized at seven to eight hours per night.

CHAPTER FORTY-NINE: SUMMARY AND INTEGRATION; CONNECTIONS TO PART FIVE

49.1 Key Themes from Part Four

Part Four has provided a comprehensive examination of substance use disorders and behavioral addictions, integrating neuroscience, clinical medicine, pharmacology, public health, social science, ethics, and cultural analysis. Several key themes merit explicit integration as this Part concludes.

The neuroscience of addiction is real and important. The mesolimbic dopamine system and its associated circuits are hijacked by drugs of abuse through mechanisms that, while varying in detail across substances, share a common logic: the production of abnormally large, rapid, and reliable dopaminergic reward signals that drive powerful incentive learning, the progressive development of compensatory neuroadaptations that generate negative affect in the absence of

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the drug, and the impairment of prefrontal control mechanisms that would normally limit compulsive behavior. These neurobiological changes are not just interesting science: they explain why addiction is persistent, why relapse is so common, and why willpower alone is rarely sufficient for sustained recovery. But they do not reduce addicted individuals to helpless victims of their neurobiology; retained agency, within the constraints imposed by neurobiological changes, is both empirically real and clinically essential.

The substances of greatest concern in Bangladesh have distinctive profiles that require distinct clinical approaches. Yaba (methamphetamine-caffeine combination) has produced a massive stimulant use disorder epidemic concentrated among young men, transport workers, and some groups of young women, with significant risks of psychosis, violence, cardiovascular complications, and family disruption. Cannabis use disorder affects the largest number of people and deserves more clinical attention than it typically receives, particularly given the well-established relationship between heavy adolescent cannabis use and psychotic illness. Heroin and opioid use disorder, while affecting smaller numbers than cannabis or yaba, carries the greatest immediate mortality risk (from overdose, HIV, and HCV) and the most compelling argument for the urgent scale-up of OST, NSPs, and naloxone access. Tobacco is the leading preventable cause of death in Bangladesh and requires a sustained, comprehensive control response. Alcohol, despite its religious prohibition, is a significant and under-recognized problem, and the medical complications of alcohol withdrawal and nutritional deficiency from chronic heavy drinking are genuine clinical emergencies.

The treatment gap for substance use disorders in Bangladesh is enormous and largely preventable. Effective treatments exist, including medications (naltrexone, acamprosate, buprenorphine, methadone, varenicline, NRT) and psychological approaches (CBT, motivational interviewing, contingency management, twelve-step facilitation), that can significantly reduce substance use, improve health, and support recovery. The failure to provide these treatments to the millions of Bangladeshis who need them is a failure of policy, resource allocation, and political will, as well as of clinical capacity.

The social determinants of substance use in Bangladesh are as important as the neurobiological ones. Poverty, unemployment, educational deprivation, gender inequality, political violence, climate change, and social marginalization all drive substance use and impede recovery. The clinical management of substance use disorders must engage with these social realities, not as background context but as targets for intervention, advocacy, and policy change.

The philosophical and ethical dimensions of addiction are genuinely complex and deserve serious engagement. The disease model offers real benefits but also real risks of disempowering addicted individuals. The Islamic ethical framework, far from being simply an obstacle to effective addiction care, contains profound resources for understanding and responding to addiction that can be mobilized in culturally competent clinical practice. The recovery movement's emphasis on lived experience, agency, and social reconnection represents an important complement to biomedical approaches that is beginning to find expression in Bangladesh.

49.2 Preview of Part Five

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Part Five of this textbook will address the psychotic disorders, examining the clinical presentation, neurobiology, epidemiology, diagnosis, and management of schizophrenia, schizoaffective disorder, and other primary psychotic conditions, with specific attention to their presentation and management in Bangladesh. It will examine the extraordinary scientific advances of the past decade in understanding the genetics, neural circuits, and developmental trajectories of psychotic illness, and it will engage honestly with the enduring therapeutic challenges that schizophrenia presents, including the management of treatment resistance, the cognitive and negative symptom domains, and the social and functional aspects of recovery. As in previous parts, the Bangladesh perspective will be central: the cultural dimensions of psychotic experience in Bangladesh, the role of family in both illness and recovery, the challenges of long-term pharmacological management in resource-limited settings, and the experiences of people with schizophrenia and their families in a society with limited services and persistent stigma will receive the detailed attention they deserve.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART FOUR

Vignette 1: A 30-year-old male truck driver presents to a primary care facility following a road accident. On examination, he is tachycardic (heart rate 112), hypertensive (BP 165/100), sweating profusely, and tremulous. His pupils are moderately dilated. He states he last drank alcohol 30 hours ago. Using the CIWA-Ar framework, describe how you would assess the severity of his alcohol withdrawal, and outline the immediate management plan including the essential first step that must not be omitted.

Vignette 2: A 19-year-old female university student is brought to the student health clinic by her roommate, who says she has not left her room for three days and has been talking to herself. The student was well until two weeks ago when she started using a new "energy supplement" obtained from a classmate before her exams. She now believes her professors are conspiring to make her fail. Describe the differential diagnosis, the clinical assessment you would perform, and the initial management plan.

Vignette 3: You are a medical officer at an upazila health complex. A 40-year-old male farmer presents having used cannabis daily for 20 years. He states he is "not addicted, just relaxed by it" and has come because his wife insisted. His AUDIT score for alcohol is low. His cannabis use is confirmed by urine toxicology. Using the principles of motivational interviewing, describe how you would approach this consultation, including the key elements of the motivational framework you would apply and the information you would provide about cannabis use disorder.

Vignette 4: A 35-year-old woman with heroin use disorder is referred to your addiction clinic by a harm reduction NGO. She has been on buprenorphine-naloxone 16 mg daily for four months and has been abstinent from heroin (confirmed by repeated urine toxicology). She now wants to discontinue buprenorphine because her family considers it "still a drug." How would you counsel her and her family about the risks of discontinuation, the evidence for long-term buprenorphine maintenance, and the factors that should guide the timing of any eventual planned discontinuation?

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Vignette 5: A 14-year-old boy is brought by his parents who have discovered that he has been spending 10 to 12 hours daily on his smartphone playing online games and has been lying about his gaming time. His school reports a significant drop in grades. His parents have already confiscated his phone once, with the result that he became physically aggressive. Using the ICD-11 criteria for gaming disorder, assess whether this presentation meets diagnostic criteria, and outline the key components of a treatment plan that involves the family.

STUDY QUESTIONS FOR PART FOUR

Describe the three-stage neurobiological model of addiction (binge-intoxication; withdrawal-negative affect; preoccupation-anticipation) and explain the specific neural systems involved in each stage. How does this model inform the design of pharmacological and psychological treatments?

Explain the pharmacology of yaba. How does the combination of methamphetamine and caffeine affect the brain differently from methamphetamine alone, and what are the specific clinical features of yaba-induced psychosis? How would you distinguish yaba-induced psychosis from a first episode of schizophrenia?

A 25-year-old man is brought to the emergency department with respiratory depression, miosis, and reduced consciousness following suspected heroin overdose. Describe the immediate management, including the pharmacology and practical administration of naloxone. What determines whether and how many further doses are required, and why must the patient be monitored after initial recovery?

Describe the evidence base for opioid substitution therapy (OST) with buprenorphine-naloxone. Why is the objection that "OST substitutes one drug for another" scientifically inaccurate, and what are the specific elements of the evidence that would allow you to respond to this objection in a clinical and policy context?

Discuss the relationship between cannabis use and psychotic illness. What is the strength and nature of the epidemiological evidence for causation? What neurobiological mechanisms have been proposed? What are the implications for public health messaging, for clinical practice in Bangladesh, and for the management of a patient with schizophrenia who continues to use cannabis?

Critically evaluate the disease model of addiction. What are its strengths, limitations, and potential harms? How does Islamic ethical thought relate to the concept of addiction as a disease, and what is a clinically and culturally appropriate framework for understanding addiction in the Bangladeshi context?

Describe the SBIRT (Screening, Brief Intervention, and Referral to Treatment) approach to alcohol use disorders in primary care. Outline the evidence for its effectiveness, and describe the

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specific steps you would take to implement SBIRT in a Bangladeshi upazila health complex setting.

Describe the features of gaming disorder as defined in ICD-11. What neurobiological evidence supports its classification as a behavioral addiction? How would you distinguish gaming disorder from healthy recreational gaming, and what does the evidence say about effective psychological treatment approaches?

A woman with alcohol use disorder presents to your outpatient clinic with signs of peripheral neuropathy and subtle memory difficulties. She describes drinking half a litre of local spirit daily for eight years. Describe the investigation you would undertake, the nutritional complications you would consider, and the pharmacological and psychological treatment plan you would develop.

Discuss the public health significance of tobacco use in Bangladesh, including the epidemiology, health consequences, and economic costs. What is the evidence base for pharmacological and psychological cessation treatments, and what policy-level interventions have the greatest evidence for reducing tobacco use at the population level?

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End of Part Four

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Editorial Note: The authors recognize that substance use disorders remain among the most stigmatized and misunderstood conditions in Bangladeshi society, and that honest clinical and public health engagement with the full scale of this problem requires courage from health professionals and policymakers alike. The case studies presented throughout this Part are composites that protect individual identity while reflecting the genuine complexity and humanity of the people whose lives are affected by addiction. The authors express their deepest respect for the dignity and resilience of all those who struggle with, and recover from, substance use disorders, and for the families who stand alongside them through that journey. The policy failures described throughout this Part are not inevitable: they represent choices that can be remade. Better choices, grounded in evidence, compassion, and justice, are possible and urgent.

PART FIVE: THE PSYCHOTIC DISORDERS: SCHIZOPHRENIA SPECTRUM AND RELATED CONDITIONS

Editorial Note: Part Five addresses one of the most challenging, most contested, and most humanistically demanding areas of all psychiatry. Schizophrenia and the psychotic disorders have fascinated and baffled clinicians, researchers, philosophers, and artists for as long as systematic descriptions of human experience have existed. They raise the deepest questions about the nature of mind, the boundaries of reality, the meaning of madness, and the obligations of medicine and society toward those whose experience of the world departs most radically from the shared consensus of ordinary life. This Part attempts to do justice to all of these dimensions: the neuroscience, the clinical medicine, the pharmacology, the psychosocial interventions, the phenomenology, the cultural specifics of Bangladesh, the ethics, the controversies, and the human stories. It is a long Part, deliberately so. Schizophrenia is not a condition that yields to simple summaries.

CHAPTER FIFTY: UNDERSTANDING PSYCHOSIS: PHENOMENOLOGY, DEFINITIONS, AND THE BOUNDARIES OF EXTRAORDINARY EXPERIENCE

50.1 What Does It Mean to Be Psychotic?

The word "psychosis" derives from the Greek psyche (mind or soul) and osis (a condition or process). It entered psychiatric usage in the nineteenth century to describe a severe form of mental disorder in which the patient's relationship with reality is fundamentally disturbed. In contemporary usage, psychosis refers to a cluster of symptoms characterized principally by hallucinations (perceptions without an adequate external stimulus), delusions (fixed, false beliefs held with certainty despite compelling evidence to the contrary), disorganized thinking and speech, and grossly disorganized or abnormal motor behavior. These are what psychiatry calls the positive symptoms of psychosis, meaning symptoms that represent an addition or distortion of normal mental functioning, as distinct from the negative symptoms (which are discussed in detail later), that represent a diminution of normal functioning.

But this clinical definition, while necessary, does not capture what it actually feels like to experience psychosis. The phenomenology of psychosis, the first-person texture of psychotic experience, is something that clinicians must make sustained efforts to understand if they are to engage meaningfully with their patients. The philosopher and psychiatrist Karl Jaspers, in his

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foundational work General Psychopathology published in 1913, distinguished between two fundamentally different relationships that a clinician can have with a patient's experience: "explanation" (Erklaeren), in which the experience is accounted for through causal or biological mechanisms, and "understanding" (Verstehen), in which the clinician enters empathically into the patient's subjective world and grasps what the experience means from the inside. Jaspers argued that both approaches were necessary, and that neither alone was adequate.

To understand psychosis phenomenologically is to appreciate several things. First, the experience of psychosis is typically terrifying. Voices that other people cannot hear, that comment on one's actions, that give commands, that threaten or insult, are not experienced abstractly as "symptoms" but as real presences in the experiential world. The person experiencing command hallucinations is not simply "hearing voices" in the way we might casually use that phrase; they are being addressed, ordered, and sometimes tormented by a presence as vivid and immediate as any physical interlocutor. The distress this produces is proportional to the reality of the experience for the person having it.

Second, the delusional beliefs that characterize psychosis are not experienced as beliefs at all, in the ordinary sense in which we hold beliefs loosely and subject them to revision in the face of evidence. They are experienced as certainties, as direct perceptions of reality. When a person with paranoid schizophrenia believes that a neighbor is poisoning their food, they do not hold this as one possible interpretation of events alongside others; they hold it as the obvious truth that the neighbor is, in fact, doing this. The "encapsulation" of delusions, their resistance to counter-evidence and rational argument, is not simply a failure of reasoning; it reflects something more fundamental about the alteration in the relationship between the person and reality that underlies the delusional state.

Third, the disorganization of thought that characterizes some psychotic states is not simply "confused thinking" in the way any of us might think confusedly when tired or distracted. It represents a breakdown of the organizational principles that normally give thought its coherent, goal-directed character. The person experiences a loosening of the associative connections between ideas, so that thoughts flow from one to another along unexpected pathways, producing speech that may be bewildering to an observer but that may feel, to the person experiencing it, perfectly reasonable. Or thought may feel inserted from outside, or broadcast to others, or drained away, experiences of passivity and loss of the sense of ownership of one's own mental processes that represent some of the most distinctive and diagnostically important features of schizophrenic psychosis.

The psychiatrist and phenomenologist Josef Parnas, writing in the 2020s, has argued persuasively that the most fundamental disturbance in schizophrenia is what he calls an "ipseity disturbance": a disruption of the basic sense of self, of the minimal pre-reflective awareness of oneself as the subject of one's experience that underlies all normal consciousness. From this perspective, the positive symptoms of psychosis, the hallucinations, the delusions, the passivity experiences, are all downstream consequences of this more fundamental alteration in the structure of selfhood. This phenomenological analysis, which has been gaining significant traction in the recent psychiatric literature and was explicitly endorsed in several 2024 and 2025 papers on the phenomenology of schizophrenia, has important clinical implications: it suggests that successful treatment of positive symptoms without addressing the underlying self-disturbance may leave a patient vulnerable to relapse and may fail to restore the kind of grounded subjective security that is necessary for genuine functional recovery.

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50.2 Hallucinations: The Perception of the Absent

Hallucinations are among the most dramatic and most frightening of psychotic symptoms. They are defined as percepts arising in the absence of an adequate external stimulus, with the full quality of real perceptions. This last qualification is important: a hallucination is not an imagination or a daydream; it has the same subjective quality of givenness, of being "out there" in the world rather than generated from within, that characterizes normal sensory experience.

Hallucinations can occur in any sensory modality. Auditory hallucinations are by far the most common in schizophrenia. They may take the form of voices, sounds, music, or noises. Voices may be heard as whispering or as shouting, as male or female, as known or unknown, as a single voice or as multiple voices. The content of voices varies enormously, from neutral commentary on the person's actions ("he is making a cup of tea"), to critical or abusive voices that demean and torment the person, to command hallucinations that order the person to perform specific actions. The phenomenologist Marius Romme, who founded the Hearing Voices movement in the Netherlands in the late 1980s, pointed out that voices are not invariably experienced as negative or threatening; some people who hear voices report them as comforting, guiding, or even pleasurable. This observation is clinically and theoretically important: it challenges the assumption that all auditory hallucinations are necessarily distressing, and it raises questions about the boundary between psychotic hallucination and other, non-pathological forms of anomalous experience.

The experience of hearing voices is far more prevalent in the general population than is generally recognized. Community surveys have consistently found that auditory hallucination-like experiences are reported by between 5 and 20 percent of the general population, without meeting criteria for any psychotic disorder. The difference between these non-clinical voice-hearers and those diagnosed with schizophrenia appears to lie not in the presence of voices per se but in factors including the frequency, intensity, and distressing quality of the voices, the degree of the person's functional impairment, and the presence of other psychotic features. This finding, replicated across multiple cultures and settings, has profound implications for how we understand psychosis and for how we approach treatment: it suggests that the capacity for hallucinatory experience is a normal dimension of human mental life that exists along a continuum, and that what requires clinical attention is not the experience itself but its relationship to distress and impairment.

In Bangladesh, auditory hallucinations attributed to jinn, deceased relatives, or other spiritual entities are a common presenting feature of psychotic illness. The diagnostic challenge, as discussed in Chapter One through the case of Fatema, is to distinguish between culturally sanctioned spiritual experiences, culturally shaped but clinically significant psychotic experiences, and experiences that, while influenced by cultural idioms, represent genuine schizophrenic psychosis requiring clinical management. This distinction cannot be made by the symptom alone; it requires an assessment of the full clinical picture, including the degree of distress, functional impairment, the temporal pattern of symptoms, and their relationship to the patient's cultural context.

Visual hallucinations in schizophrenia are less common than auditory ones but do occur and may be particularly distressing. Visual hallucinations may consist of simple perceptions such as flashes of light or colors, or complex formed visions of people, animals, or scenes. The occurrence of visual hallucinations in psychosis should always prompt consideration of an organic cause, particularly delirium, substance intoxication or withdrawal, or a neurological

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condition, since these tend to be more strongly associated with visual than auditory hallucinations. However, visual hallucinations do occur in schizophrenia and other primary psychotic disorders, and their presence alone does not mandate a non-psychiatric diagnosis.
Tactile hallucinations (sensations of touch, pressure, temperature, or movement on or beneath the skin), olfactory hallucinations (perceptions of smell), and gustatory hallucinations (perceptions of taste) are less common but clinically important. Tactile hallucinations in the context of psychosis may include the conviction that insects are crawling under the skin (formication, classically associated with stimulant psychosis but occurring in other psychotic states), or sensations of being touched or violated by an outside agent. Olfactory and gustatory hallucinations, particularly when they involve the perception of foul or poisonous smells or tastes, may reinforce persecutory delusions (the neighbor who is poisoning the food is "detected" through the perceived taste of poison).

50.3 Delusions: The Architecture of False Belief

Delusions are, in the classic definition of Karl Jaspers, pathological beliefs that are held with extraordinary certainty, that are not amenable to modification by experience or argument, and that are not shared by the person's cultural community. This definition, while enormously influential, has attracted sustained critical scrutiny, not least because each of its three components is more complicated than it appears.
The first component, extraordinary certainty, captures something real about the phenomenology of delusions in many patients: they hold their beliefs with an absolute conviction that goes beyond the epistemic modesty of ordinary belief. But people in ordinary life sometimes hold beliefs with great certainty that are nonetheless incorrect, and some patients with delusions retain a degree of doubt about their beliefs (what is sometimes called "insight"), particularly in the early stages or during periods of partial recovery. The certainty criterion is, therefore, a matter of degree rather than an absolute boundary.
The second component, resistance to modification, is central to the clinical concept of delusion but is also complicated. Careful clinical research has shown that delusional beliefs are not absolutely fixed and can be modified, at least partially, under certain conditions, including the therapeutic relationship, psychoeducation, and cognitive therapy. The existence of cognitive behavioral therapy for psychosis (CBTp), which can demonstrably reduce the intensity and distress associated with delusional beliefs, implies that delusions are not simply impenetrable to rational engagement. What is true is that they are much more resistant to counter-evidence and argument than ordinary beliefs, and that this resistance is often associated with the underlying neurocognitive alterations that characterize psychosis.
The third component, the cultural criterion, is particularly important in culturally diverse settings like Bangladesh. Jaspers specified that a delusion is a belief not shared by the person's cultural community, implicitly acknowledging that the boundary between pathological and culturally normative belief is not fixed across cultures. The belief that a deceased ancestor can communicate with and protect living family members is widely shared in Bangladeshi culture and is not, in itself, a delusion. The belief that the spirit of a deceased aunt is specifically and persistently persecuting the believer, causing physical illness, and demanding specific ritual acts that no one else in the community endorses, begins to shade into something more pathological. The clinical assessment of delusions in a cultural context requires both knowledge of the local

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belief system and careful attention to the specific features of the individual's beliefs, particularly their idiosyncratic and self-referential character.

Delusions are classified in several ways. By content, they may be persecutory (the most common type: the belief that one is being followed, monitored, plotted against, or harmed by others), referential (the belief that neutral events in the environment, such as television programs, newspaper articles, or the behavior of strangers, have special personal significance for the believer), grandiose (the belief that one has special powers, unique identity, special relationships with powerful figures, or a divine mission), nihilistic (the belief that one is dead, does not exist, or that the world has ended), somatic (the belief that one's body is diseased, rotting, infested, or altered in some fundamental way), or erotomanic (the belief that another person, usually of higher social status, is in love with the believer). In Bangladesh, persecutory delusions with religious content, including the belief that one is being tormented by jinn or afflicted by black magic, are particularly common presenting forms.

By their formal properties, delusions may be described as primary (arising de novo from a specific anomalous experience, such as a sudden delusional perception in which an otherwise normal perception carries an overwhelming and self-evident significance, or as a delusional intuition in which a new and certain belief simply appears in consciousness without any preceding experience to explain it) or secondary (arising comprehensibly from other psychopathological phenomena, such as mood state or hallucinations). Primary delusions, particularly the delusional perception, have historically been considered of particular diagnostic significance for schizophrenia, though their diagnostic weight has been somewhat reduced in contemporary classification systems.

50.4 Thought Disorder: The Disorganization of Inner Speech

The term "thought disorder" or "formal thought disorder" refers to a disturbance in the form or organization of thinking, as distinct from the content of thought (which is addressed under delusions). It is detected primarily through observation of the patient's speech, since thought is made accessible to the clinician only through its verbal expression.

The most clinically significant manifestations of formal thought disorder in schizophrenia include:

Loosening of associations (also called derailment or knight's move thinking): The patient's speech shifts from topic to topic with inadequate associative links between them. What appears as a conversation progresses through connections that the speaker apparently finds natural but that the listener cannot follow. In its milder form, this produces speech that is tangential (replies go off on a tangent and never fully address the original question); in its more severe form, it produces speech that is frankly incoherent.

Poverty of thought (alogia): A reduction in the amount and spontaneity of thought and speech. The patient provides only minimal responses to questions, and there may be long pauses before responses. Alogia is considered a negative symptom rather than a positive one, but it is often grouped with formal thought disorder because it is detected through speech.

Thought blocking: The patient experiences a sudden interruption in the stream of thought, as if thoughts have been "stolen" or simply stop. In interview, this may be observed as a sudden halt in mid-sentence, followed by the patient's report that their thought has gone blank.

Neologisms: The creation of new words, or the application of existing words in idiosyncratic and unusual ways.

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Clang associations: The patient's thought is guided by the sound of words rather than their meaning, producing rhyming or punning responses that may be richly verbal but that fail to maintain coherent meaning.
Thought disorder is not unique to schizophrenia; it can occur in mania, severe depression with psychotic features, and in some organic states. However, the specific quality of formal thought disorder in schizophrenia, particularly loosening of associations, is often distinctive enough to provide important diagnostic information. In Bangladesh, the assessment of thought disorder requires awareness of the cultural styles of communication that may superficially resemble loosening of associations (elaborate metaphorical speech, for example) but that, when understood in cultural context, are coherent and appropriate.

50.5 Negative Symptoms: The Shadow Side of Schizophrenia

Negative symptoms are among the most clinically important and most difficult aspects of schizophrenia. Unlike the dramatic positive symptoms, which attract attention and alarm, negative symptoms are easily overlooked, normalized, or attributed to laziness, willfulness, or the side effects of medication. Yet they are at least as important as positive symptoms in determining the functional impairment and quality of life of people with schizophrenia, and they are considerably more resistant to available treatments.
The five primary negative symptom domains identified in the literature are:
Blunted affect: A reduction in the range and intensity of emotional expression. The patient's face may be relatively immobile (flat affect), with reduced variation in facial expression, reduced eye contact, and reduced spontaneous movement. The voice may be monotonous, lacking in the prosodic variation that conveys emotional meaning in normal speech. It is important to note that blunted affect refers to the external expression of emotion rather than to internal emotional experience; many patients with schizophrenia report rich internal emotional life that is simply not expressed outwardly.
Alogia: Reduced verbal output and content, described above.
Avolition: A profound reduction in motivation and goal-directed behavior. The person with avolition finds it extremely difficult to initiate and sustain activities, even those that are clearly in their self-interest, such as maintaining hygiene, preparing food, attending appointments, or pursuing employment. Avolition is often the most disabling negative symptom from the perspective of functional outcomes and is frequently misunderstood by family members as deliberate laziness or defiance.
Anhedonia: Reduced capacity to experience pleasure. This may take the form of reduced pleasure from activities that previously gave pleasure (consummatory anhedonia) or a reduced motivation to seek out pleasurable experiences (anticipatory anhedonia). Research suggests that the anticipatory component is particularly impaired in schizophrenia, contributing to the reduced initiation of goal-directed behavior.
Asociality: Reduced desire for and pleasure from social interaction. The patient spends increasing amounts of time alone, shows little interest in social contact, and may become progressively isolated even from family members.
It is essential to distinguish "primary" negative symptoms, which are intrinsic to the schizophrenic illness process, from "secondary" negative symptoms, which arise from other sources such as depression, side effects of antipsychotic medications (particularly the older first-generation agents, which can produce a parkinsonian-like syndrome including reduced facial

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expression and motor slowing that may be misidentified as blunted affect and avolition), understimulating environments, and psychosocial deprivation. This distinction matters clinically because secondary negative symptoms may respond to interventions aimed at their underlying causes (treating depression, adjusting medication, improving the social environment) whereas primary negative symptoms require more specific approaches. The clinical challenge of making this distinction in a setting like Bangladesh, where medication side effects may not be adequately monitored, where environments may indeed be understimulating, and where depressive comorbidity is common and underdiagnosed, is considerable.

The negative symptom domain has been the focus of intense research interest in recent years, partly because it represents a major unmet therapeutic need. As noted in the 2025 review by Psychiatric Times and elsewhere, existing antipsychotic medications are largely effective for positive symptoms but have limited efficacy for negative symptoms. This limitation has driven the search for new pharmacological targets and for psychosocial interventions specifically designed to address negative symptoms. The CT-155 prescription digital therapeutic, which received FDA breakthrough device designation in 2024 and demonstrated statistically significant reduction in negative symptoms in pivotal phase III trial data presented in 2025, represents one example of this innovation, with implications that may eventually be relevant even in low-resource settings like Bangladesh as digital delivery costs fall.

50.6 Cognitive Deficits: The Hidden Disability

Cognitive impairment is now recognized as a core feature of schizophrenia, not merely a side effect of medication or a consequence of institutional life, but a fundamental aspect of the illness that is present before the onset of frank psychosis and that persists through periods of symptomatic remission. The cognitive domains most affected in schizophrenia include working memory, processing speed, attention and vigilance, verbal learning and memory, visual learning and memory, reasoning and problem-solving, and social cognition.

The degree of cognitive impairment in schizophrenia is substantial by clinical standards: on average, people with schizophrenia perform approximately 1 to 1.5 standard deviations below expected levels on comprehensive neuropsychological assessments. This corresponds to a reduction of approximately 15 to 20 IQ points below what would be expected on the basis of estimated premorbid ability. However, the distribution of impairment is heterogeneous: a substantial minority of patients show little or no detectable cognitive impairment, while others show profound deficits across multiple domains.

The relationship between cognitive impairment and functional outcomes in schizophrenia is strong and consistent across studies. Cognitive deficits predict functional outcomes (including employment, independent living, and quality of life) more strongly than positive symptom severity, which is itself counterintuitive given the dramatic and alarming nature of positive symptoms. The person who hears voices and holds persecutory beliefs but has relatively intact cognitive function is, from a functional outcome perspective, generally better off than the person whose positive symptoms are well-controlled by medication but who has profound impairments in working memory and processing speed.

Cognitive remediation therapy (CRT), which uses systematic practice on cognitive tasks to improve cognitive function and generalize improvements to real-world functioning, has shown modest but consistent benefits in randomized controlled trials and is now recommended by major guidelines including NICE (2023) as an adjunct to treatment in schizophrenia. The APA (2024)

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guidelines also support cognitive remediation as part of a comprehensive treatment approach. In Bangladesh, cognitive remediation is not currently available in any systematic form, but the principles underlying it, including the use of structured cognitive activities, the importance of stimulating environments, and the role of education and occupation in maintaining cognitive function, are applicable even without specialized programs.

CHAPTER FIFTY-ONE: CLASSIFICATION OF PSYCHOTIC DISORDERS: FROM KRAEPELIN TO ICD-11

51.1 The Kraepelinian Legacy: Separating Dementia Praecox from Manic-Depressive Insanity

The history of psychiatric classification of psychotic disorders is inseparable from the towering figure of Emil Kraepelin (1856-1926), the German psychiatrist whose systematic clinical observations and long-term follow-up studies in the late nineteenth and early twentieth centuries laid the foundations of modern psychiatric nosology. Kraepelin made what remains arguably the most influential classificatory distinction in the history of psychiatry: the separation of "dementia praecox" (literally, early dementia) from "manic-depressive insanity."

Kraepelin observed that among the patients in the Heidelberg and Munich clinics where he worked, two broad groups could be distinguished by their long-term clinical course. One group, which he called dementia praecox, was characterized by an onset typically in youth or early adult life, a progressive or deteriorating course, and persistent residual impairment even when the most florid symptoms were not present. The other group, manic-depressive insanity, was characterized by episodic illness with good inter-episode recovery and a relatively benign long-term prognosis. This distinction, which has proven to be an enduring and clinically useful heuristic even as its biological foundations have been repeatedly questioned, remains embedded in contemporary psychiatric classification in the form of the categorical distinction between schizophrenia spectrum disorders and mood disorders.

It is important to note what Kraepelin was doing and what he was not doing. He was classifying on the basis of clinical observation and longitudinal course, not on the basis of any identified biological pathology. He explicitly acknowledged that dementia praecox and manic-depressive insanity might not be discrete disease entities with a single underlying cause but might represent the clinically recognizable ends of a continuous spectrum. His later career was marked by increasing uncertainty about the validity of his own distinctions, and his last major work, published posthumously in 1927, contained significant revisions of his earlier positions.

Eugen Bleuler (1857-1939), the Swiss psychiatrist who renamed dementia praecox "schizophrenia" (literally, splitting of the mind, referring not to "split personality" in the popular sense but to a splitting of the normally integrated functions of thought, emotion, and volition), introduced important modifications to Kraepelin's clinical description. Bleuler emphasized what he called the "four A's": loosening of Associations, Affect disturbance, Autism (withdrawal from social reality into an inner world), and Ambivalence (the coexistence of contradictory thoughts, feelings, or impulses). For Bleuler, hallucinations and delusions were secondary, accessory symptoms rather than primary features of schizophrenia. This shift in emphasis from positive symptoms to what we would now call negative and disorganized symptoms has had lasting influence.

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Bleuler was also responsible for broadening the diagnostic concept of schizophrenia considerably, arguing for the existence of "latent schizophrenia," a mild or subclinical form, and suggesting that the condition was much more prevalent than Kraepelin had estimated. This broadening, together with the influence of psychoanalytic thinking on American psychiatry, contributed to a remarkable divergence in the prevalence of schizophrenia diagnoses between the United States and Britain through the mid-twentieth century, with American psychiatrists diagnosing schizophrenia in many patients who British psychiatrists would have diagnosed as having affective disorders or personality disorders. This diagnostic inconsistency was a major impetus for the development of operational diagnostic criteria in DSM-III (1980).

51.2 Kurt Schneider and First-Rank Symptoms

Kurt Schneider (1887-1967), a German psychiatrist working in the mid-twentieth century, proposed a set of symptoms that he believed were of particular diagnostic value for schizophrenia: the "first-rank symptoms." These included auditory hallucinations of a specific type (voices heard as distinct from the person's own thoughts, commenting on the person's actions in the third person, or heard debating about the person), experiences of thought withdrawal, thought insertion, thought broadcasting, made feelings, made impulses, made volitions (experiences in which the person feels that their own mental states are being imposed from outside), delusional perception (a normal perception to which a special, often apocalyptic, personal significance is attached), and somatic passivity experiences (the sense that bodily sensations are produced by an external agent).

Schneider proposed that the presence of one or more first-rank symptoms, in the absence of obvious organic cause, was sufficient for the diagnosis of schizophrenia. His criteria proved influential, particularly in European and Commonwealth psychiatric practice, and were incorporated into earlier versions of both DSM and ICD. However, subsequent research has substantially qualified their diagnostic specificity: first-rank symptoms are not pathognomonic for schizophrenia and can occur in mania, severe depression, and organic psychoses. Conversely, many patients with schizophrenia never experience first-rank symptoms.

Despite their limited diagnostic specificity, Schneiderian first-rank symptoms remain clinically important in Bangladesh and elsewhere because they describe some of the most distinctive and diagnostically significant experiences of psychosis. The experiences of thought insertion, thought withdrawal, and thought broadcasting, for example, describe a fundamental alteration in the person's relationship to their own thinking, a loss of the sense that thoughts are their own that has no normal counterpart and that, when present, strongly suggests a psychotic process even in the absence of other features.

51.3 The ICD-11 Classification of Schizophrenia Spectrum and Other Primary Psychotic Disorders

The International Classification of Diseases, Eleventh Edition (ICD-11), adopted by the World Health Organization in 2019 and now in the process of implementation globally, provides the primary classification framework for this textbook, given its status as the official diagnostic framework for the Bangladesh health system. ICD-11 organizes the psychotic disorders under the heading "Schizophrenia Spectrum and Other Primary Psychotic Disorders," and places the following conditions in this grouping:

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Schizophrenia is characterized by the presence of two or more of the following groups of symptoms for a significant portion of a one-month period (or less if adequately treated): persistent delusions; persistent hallucinations; disorganized thinking; experiences of influence, passivity, or control (Schneiderian passivity phenomena); negative symptoms; and grossly disorganized behavior (including catatonia). The diagnosis also requires that these symptoms are not due to another medical condition, substance use, or other mental disorder, and that they are associated with significant functional impairment. ICD-11 notably removes the previous subtypes of schizophrenia (paranoid, disorganized, catatonic, undifferentiated, and residual) that had been carried over from earlier classification systems, on the grounds that these subtypes had low diagnostic reliability, limited clinical utility, and poor temporal stability (the same patient would often receive different subtype diagnoses at different points in their illness). Instead, ICD-11 uses dimensional qualifiers to describe the current symptom profile.

Schizoaffective disorder is characterized by the co-occurrence of affective symptoms (depressive or manic) and core schizophrenia symptoms in a single episode of illness, with neither set of symptoms being predominant. Schizoaffective disorder has been one of the most contested diagnostic categories in psychiatry, challenged by geneticists who find it shares genetic risk factors with both schizophrenia and bipolar disorder, by clinicians who find it unreliable and unstable over time, and by theorists who argue it represents a point on a continuum between schizophrenia and mood disorder rather than a discrete entity.

Schizotypal disorder is a condition characterized by a consistent pattern of peculiarities in perception, thought, communication, and behavior, including odd beliefs and magical thinking, unusual perceptual experiences, eccentric behavior, paranoid ideation, and social isolation, that is not severe enough to meet criteria for schizophrenia but that represents a related phenotype sharing genetic risk factors with schizophrenia. In ICD-11, schizotypal disorder is classified within the schizophrenia spectrum, reflecting a growing consensus that it represents a milder, subclinical expression of the schizophrenia diathesis.

Acute and transient psychotic disorder is characterized by the acute onset (within two weeks) of a psychotic episode, which may include delusions, hallucinations, disorganized speech, or grossly disorganized behavior, that resolves fully (without residual symptoms or impairment) within three months. This category is of considerable interest in the Bangladeshi context, since there is evidence from WHO cross-cultural studies that acute, brief, and fully remitting psychotic episodes are more common in low- and middle-income countries than in high-income ones, possibly reflecting differences in cultural context, help-seeking pathways, and the social response to acute psychosis. The WHO International Study of Schizophrenia (ISoS), which followed patients with first-episode schizophrenia in multiple countries including India and Nigeria, found that outcomes were generally better in lower-income countries than in higher-income ones, a finding that has been variously interpreted and that we will discuss in detail.

Delusional disorder is characterized by the presence of one or more persistent delusions that are typically circumscribed (not as bizarre or disorganized as in schizophrenia), without significant hallucinations, disorganization, or negative symptoms. The person's functioning may be relatively preserved outside the area of the delusion. Common delusional themes include persecution, jealousy (the pathological conviction that a sexual partner is unfaithful), grandiosity, erotomania, and somatic delusions. Delusional disorder often presents late to psychiatric services, because the person typically does not recognize the pathological nature of their beliefs and may function adequately in areas outside the delusional domain.

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51.4 The DSM-5-TR and Its Differences from ICD-11

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR, 2022) is widely used in research settings in Bangladesh and globally, and many clinicians trained in North America will be familiar primarily with its framework. The major differences between DSM-5-TR and ICD-11 in the classification of psychotic disorders are as follows.

DSM-5-TR requires a minimum duration of six months for a schizophrenia diagnosis (of which at least one month must include active phase symptoms), while ICD-11 requires only one month of active symptoms. This means that DSM-5-TR places in the category of "schizophreniform disorder" patients who would meet ICD-11 criteria for schizophrenia before the six-month threshold is reached. DSM-5-TR also retains "brief psychotic disorder" (less than one month of symptoms), which corresponds roughly to ICD-11's "acute and transient psychotic disorder."

Both systems have moved away from the requirement that at least one of the symptoms be a first-rank symptom, recognizing the limited diagnostic specificity of Schneiderian first-rank symptoms. Both require that positive or negative symptoms are present and are associated with significant impairment.

For clinical practice in Bangladesh, the key points are: ICD-11 is the official system and should be used for routine diagnosis and health system reporting; DSM-5-TR will be encountered in research publications and by clinicians with international training; and the practical clinical differences between the two systems are modest for the great majority of patients.

51.5 The Spectrum Concept and Its Clinical Implications

A fundamental reconceptualization that has been gaining momentum in the research literature is the spectrum or dimensional view of psychotic disorders. Rather than treating schizophrenia, schizoaffective disorder, bipolar disorder with psychotic features, and major depression with psychotic features as distinct disease categories separated by clear natural boundaries, the spectrum view treats them as points on a continuum or as clusters in a multidimensional space, sharing genetic risk factors, neurobiological underpinnings, and clinical features to varying degrees.

The genetic evidence for this view is particularly compelling. The genome-wide association studies (GWAS) of the past decade have shown that schizophrenia and bipolar disorder share a substantial proportion of their genetic risk architecture: many of the common genetic variants that increase risk for schizophrenia also increase risk for bipolar disorder and, to a lesser extent, for major depression and other psychiatric conditions. The findings from the Psychiatric Genomics Consortium, involving hundreds of thousands of participants globally, have consistently supported a picture of overlapping and distributed genetic risk across the traditional diagnostic categories.

The clinical implications of the spectrum view are several. It supports a more individualized approach to treatment, in which the specific symptom profile of the individual patient, rather than their diagnostic label, guides treatment decisions. It raises questions about the clinical utility of maintaining sharp boundaries between diagnostic categories when the underlying biology does not respect those boundaries. And it suggests that early intervention approaches that target the at-risk state before full diagnostic criteria are met may be more valuable than waiting for a firm diagnosis before initiating treatment.

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The 2024 review by Tandon and colleagues, involving fifty international experts, concluded that schizophrenia is "increasingly considered to be a heterogeneous syndrome and not a singular disease entity," and that "the boundaries of schizophrenia remain fuzzy, suggesting the absence of a categorical fit and the need to reconceptualize it as a broader, multi-dimensional and/or spectrum construct." This consensus, while stopping short of abandoning the schizophrenia diagnosis, reflects the intellectual trajectory of the field and will likely inform future revisions of both ICD and DSM.

CHAPTER FIFTY-TWO: THE HISTORY OF SCHIZOPHRENIA AS A CONCEPT: DEBATES, CONTROVERSIES, AND REVISIONS

52.1 Was Schizophrenia Always There? The Question of Historical Existence

One of the most interesting and practically important debates in schizophrenia research concerns the question of whether the condition is an ancient feature of the human species or a relatively recent phenomenon. On one view, schizophrenia is universal and has always existed wherever there are human beings; the evidence for this lies in the widespread occurrence of psychotic phenomena in historical and cross-cultural records. On another view, schizophrenia in its classic, chronic, deteriorating form may be a relatively recent phenomenon, possibly associated with urbanization, industrialization, or other features of modern life.

The historian E. Fuller Torrey and colleagues have argued, from a detailed review of historical medical records, that descriptions of chronic, deteriorating psychotic illness conforming to the modern concept of schizophrenia are largely absent from the historical record before approximately 1800 and become progressively more common through the nineteenth century. They suggest that this temporal pattern is incompatible with schizophrenia having always existed at its current prevalence and raises the possibility that some factor associated with industrial civilization, such as an infectious agent, environmental toxin, or nutritional change, contributed to the emergence or increase of the condition.

The opposing view, represented by scholars like Jonathan Hare and others, maintains that the apparent absence of schizophrenia from the pre-modern historical record reflects the limitations of the historical record itself (most ordinary people left no written record of their experience or symptoms), the absence of a medical framework that would have categorized these experiences as symptoms of a disease, and the attribution of psychotic phenomena to supernatural causes in both historical and non-Western contexts.

For Bangladesh, this debate has specific resonance. The pre-colonial history of psychosis in the Bengal region has been almost entirely unwritten from a psychiatric perspective, because the relevant experiences were understood and recorded within spiritual and Ayurvedic frameworks rather than medical ones. The existence of Sufi shrines across Bangladesh where people with severe mental illness have been cared for (and sometimes chained) for centuries suggests that conditions resembling schizophrenia have been recognized as a distinctive form of madness in this region for a very long time. But the exact relationship between these historically recognized forms of madness and the modern diagnostic category of schizophrenia is a question that cannot be fully resolved with available evidence.

52.2 The Anti-Psychiatry Challenge to Schizophrenia

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The anti-psychiatry movement of the 1960s and 1970s, discussed in Chapter Three, directed some of its most pointed critique at the concept of schizophrenia specifically. Thomas Szasz argued that schizophrenia was a myth, a label applied by psychiatrists to people whose behavior deviated from social norms in ways that society found threatening or disturbing. R.D. Laing argued that schizophrenia was not a disease but a comprehensible response to an impossible relational situation, particularly the double-binds and mystifications generated by pathological family communication. Both views were influential far beyond academic psychiatry and shaped a generation of anti-stigma and consumer rights advocacy.

The claims of the anti-psychiatry movement are now largely discredited from an empirical perspective. The evidence that schizophrenia is associated with structural and functional brain abnormalities, that it has a substantial genetic component, and that it responds to pharmacological interventions targeting specific neurotransmitter systems, does not support the view that it is simply a label for social deviance. The evidence that it causes profound and lasting suffering in most of those who experience it undermines the romantic view that psychosis is simply a "different way of being" that only becomes a problem because of social intolerance.

However, the anti-psychiatry critique left a legitimate and important residue. The concern about the power of psychiatric diagnosis to stigmatize and exclude, about the risks of coercive psychiatric treatment, about the importance of attending to the social and relational context of psychosis, and about the need to respect the experiential knowledge of people who have lived through psychosis: these concerns remain as relevant today as they were in the 1960s. The consumer and survivor movement in psychiatry, which has built on the legitimate elements of the anti-psychiatry critique while rejecting its excesses, has been a powerful force for reform in mental health policy and practice globally. In Bangladesh, where the history of institutional care for the mentally ill has included significant abuses, and where people with mental illness continue to experience profound stigma and social exclusion, these concerns have immediate practical relevance.

52.3 The Cultural Relativity Debate: Does Schizophrenia Present the Same Way Everywhere?

The question of whether schizophrenia is a culturally universal phenomenon or a Western cultural construction has been extensively debated. The cross-cultural studies conducted by the WHO in the 1970s (the International Pilot Study of Schizophrenia) found that schizophrenia occurred in all ten participating countries, including India and Nigeria, suggesting cultural universality. However, the same studies found important cross-cultural differences in the clinical presentation and outcome of schizophrenia.

The finding that most attracted attention was the apparent difference in outcome between patients in high-income countries (United States, United Kingdom, Denmark, Czechoslovakia) and those in lower-income countries (India, Nigeria, Colombia), with patients in the lower-income countries showing generally better outcomes at two-year and five-year follow-up. This counterintuitive finding, replicated with some qualifications in subsequent studies, has been variously explained. Proposed explanations have included differences in expressed emotion (the pattern of critical, hostile, or emotionally over-involved family attitudes, which predicts relapse in schizophrenia and may be more common in high-income countries), differences in the use of antipsychotic medications and their long-term effects, differences in social expectations and accommodation of disability, differences in help-seeking patterns (with earlier and more

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culturally integrated responses to acute psychosis in traditional societies), and the possibility that the diagnostic categories capture different populations in different settings.

The debate about cross-cultural outcome differences in schizophrenia remains unresolved, but it has important implications for clinical practice in Bangladesh. If social support, family tolerance, and culturally integrated responses to acute psychosis can genuinely improve outcomes, then building on these natural supports, rather than simply medicalizing and pathologizing acute psychotic presentations, may be a genuine clinical and public health priority. At the same time, romanticizing the social context of psychosis in low-income countries ignores the very real suffering, abuse, and social exclusion that people with schizophrenia experience in Bangladesh, and the very real need for effective clinical services.

CHAPTER FIFTY-THREE: THE NEUROBIOLOGY OF SCHIZOPHRENIA: FROM DOPAMINE TO SYNAPTIC PRUNING

53.1 The Dopamine Hypothesis: A Theory That Transformed Psychiatry

The dopamine hypothesis of schizophrenia, in its original form, proposed that schizophrenia was caused by overactivity of dopaminergic neurotransmission, specifically in the mesolimbic pathways of the brain. This hypothesis emerged from two converging lines of evidence. First, the drugs that were discovered to be effective antipsychotics in the 1950s and 1960s (chlorpromazine, haloperidol) were subsequently shown to be potent blockers of dopamine D2 receptors. Second, drugs that increase dopaminergic activity, such as amphetamine and cocaine, were found to induce psychotic states in non-psychotic individuals and to exacerbate symptoms in those with schizophrenia. The therapeutic potency of antipsychotics was found to correlate closely with their affinity for the D2 receptor, a finding that dramatically strengthened the dopaminergic account.

The original dopamine hypothesis, however, was too simple to be correct in its unqualified form. Several lines of evidence have complicated and refined it over the subsequent decades. First, the hypothesis in its original form predicted diffusely elevated dopaminergic activity, but the evidence from neuroimaging and post-mortem studies is more complex: dopaminergic activity appears to be elevated in striatal regions (specifically the striatum and limbic dopamine terminals) but reduced in the prefrontal cortex. This prefrontal dopamine deficit is thought to underlie the negative symptoms and cognitive impairments of schizophrenia, while the striatal excess is associated with positive symptoms.

Second, the timing of antipsychotic action is inconsistent with a simple receptor blockade account. D2 receptor blockade is achieved within hours of starting medication, but the antipsychotic effect takes days to weeks to fully manifest. This suggests that the therapeutic mechanism involves adaptive changes downstream of receptor blockade rather than the blockade itself.

Third, a substantial proportion of patients, estimated at 20 to 30 percent, have what is called treatment-resistant schizophrenia and fail to respond adequately to D2 receptor antagonists even at doses that produce essentially complete D2 blockade. This population requires clozapine, an antipsychotic with a distinctive pharmacological profile including relatively weak D2 blockade but potent antagonism at serotonin, norepinephrine, histamine, and muscarinic receptors. The existence of treatment-resistant schizophrenia that responds to clozapine but not

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to other antipsychotics implies that dopaminergic mechanisms, while important, are not the whole story.

The "revised dopamine hypothesis," articulated by Oliver Howes, Shitij Kapur, and colleagues in the 2010s, proposes that the key pathophysiology in schizophrenia involves not simply elevated dopamine release but rather aberrant dopamine activity, specifically the inappropriate signaling of dopamine in response to stimuli that do not warrant such signaling. On this account, dopamine normally functions as a "salience signal," marking certain stimuli and events as important and worthy of attention and action. In schizophrenia, this salience signal fires incorrectly, attributing excessive importance to neutral stimuli (this neighbor's behavior is significant, this television program is sending me messages). Delusions, on this account, arise as the person's attempt to make sense of the flood of aberrant salience signals: they construct a delusional framework that explains why these otherwise neutral things feel so meaningful.

This revised hypothesis has been supported by neuroimaging evidence using positron emission tomography (PET) and single-photon emission computed tomography (SPECT) to measure dopamine synthesis capacity and dopamine release in schizophrenia. These studies, systematically reviewed by Howes and Kapur and subsequently updated through 2024, have consistently found elevated striatal dopamine synthesis capacity and greater dopamine release in response to amphetamine challenge in patients with schizophrenia compared to healthy controls. Critically, elevated dopamine synthesis capacity has also been found in individuals at ultra-high risk for psychosis before any frank psychotic episode, suggesting that the dopaminergic abnormality precedes rather than results from psychosis onset.

53.2 The Glutamate Hypothesis: NMDA Receptors and the Question of Cortical Hyperexcitability

The glutamate hypothesis of schizophrenia, which has emerged as the major complementary and competing neurotransmitter hypothesis to the dopamine account, proposes that schizophrenic symptoms arise from a functional deficiency of neurotransmission at NMDA (N-methyl-D-aspartate) receptors, the major class of excitatory glutamate receptors in the brain. This hypothesis received its most striking experimental support from the finding that NMDA receptor antagonists, specifically phencyclidine (PCP, or "angel dust") and ketamine, when administered to healthy volunteers, produce a state that closely resembles schizophrenia, including positive symptoms (hallucinations and delusions), negative symptoms, and cognitive impairments.

The NMDA receptor is located on multiple types of neurons in the brain, but its role on GABAergic interneurons in the prefrontal cortex is thought to be particularly important for schizophrenia pathophysiology. GABAergic interneurons, particularly the fast-spiking parvalbumin-containing interneurons (PV interneurons), play a critical role in coordinating the activity of cortical neural circuits, including the generation of gamma-frequency oscillations that are thought to underlie working memory and other cognitive functions. If NMDA receptor function is reduced on these interneurons, they become dysregulated, disrupting the coordination of cortical activity and producing both cognitive deficits (from disrupted prefrontal gamma oscillations) and, downstream, elevated subcortical dopamine release (from dysregulated inhibitory control of mesolimbic dopamine neurons).

This model, often called the "NMDA receptor hypofunction" model of schizophrenia, provides an elegant integration of the dopamine and glutamate hypotheses and accounts for why positive symptoms (driven by striatal dopamine excess) and negative and cognitive symptoms (driven by

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prefrontal dysregulation) tend to co-occur in the same condition. It also points toward new therapeutic targets: pharmacological agents that enhance NMDA receptor function, including glycine modulators, D-serine, and compounds targeting the glycine transporter GlyT1, have been investigated as potential treatments for the negative and cognitive symptom domains.

The clinical relevance of this research for Bangladesh lies primarily in understanding why existing treatments work as they do and why they have the limitations they do. No treatment targeting the glutamate system is yet available in Bangladesh in a form that could be used clinically, but the research pipeline as of 2025 includes several promising agents, and the glutamate hypothesis continues to be one of the most productive frameworks for developing new treatments for schizophrenia's most refractory symptom domains.

53.3 The Role of Inflammation and the Immune System

A third major neurobiological framework for schizophrenia has emerged from research on the immune system and neuroinflammation. There is now substantial evidence that inflammation plays a significant role in at least a subset of patients with schizophrenia.

Epidemiological evidence has long suggested that maternal infections during pregnancy increase the risk of schizophrenia in offspring. Studies of influenza epidemics in the twentieth century found increased rates of schizophrenia in individuals born in the months following periods of high influenza prevalence, and cohort studies have found elevated risks associated with a range of maternal infections including toxoplasmosis, rubella, and various bacterial infections. These findings suggest that prenatal immune activation may be a risk factor for schizophrenia, possibly through effects on brain development.

Clinical studies have found elevated levels of pro-inflammatory cytokines (including interleukin-6, interleukin-1 beta, and tumor necrosis factor alpha) in the blood and cerebrospinal fluid of patients with schizophrenia, particularly during acute psychotic episodes. Neuroimaging studies using PET tracers for microglial activation, the brain's resident immune cells, have found evidence of elevated microglial activity in schizophrenia. And meta-analyses of genetic studies have found enrichment among schizophrenia risk genes for genes involved in immune function and the major histocompatibility complex (MHC).

The implications of the neuroinflammatory hypothesis are several. It suggests that a subgroup of patients with schizophrenia may have inflammatory pathophysiology that could, in principle, be targeted with anti-inflammatory treatments. The potential use of anti-inflammatory agents as adjunctive treatments in schizophrenia has been explored in several clinical trials, with some promising results for specific agents including cyclooxygenase-2 inhibitors and N-acetylcysteine. It also raises questions about the relationship between infection exposure and schizophrenia risk in low-income countries like Bangladesh, where the burden of infectious disease is substantially higher than in high-income countries, and where the implications of this exposure for schizophrenia risk have barely been studied.

The 2025 narrative review in Exploratory Neuroscience explicitly highlighted the emerging evidence for "neuroinflammation, oxidative stress, and immune dysregulation" as key contributors to schizophrenia pathophysiology alongside the classic neurotransmitter hypotheses, reflecting a growing consensus that the neurobiology of schizophrenia involves multiple interacting systems rather than a single neurochemical disturbance.

53.4 Genetics: From Candidate Genes to Genome-Wide Discovery

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Schizophrenia is one of the most heritable of all complex human traits. Twin studies have estimated the heritability of schizophrenia at approximately 60 to 80 percent, meaning that genetic factors account for 60 to 80 percent of the variance in liability to the condition in the populations studied. The lifetime risk of schizophrenia in the general population is approximately 1 percent; this rises to approximately 10 percent in first-degree relatives of people with schizophrenia and to approximately 45 to 50 percent in the monozygotic (identical) twin of a person with schizophrenia.

For decades, psychiatric geneticists attempted to identify the specific genes responsible for this heritability through candidate gene studies, focusing on genes in the dopaminergic, serotonergic, and glutamatergic pathways. These studies were largely unsuccessful: the findings were inconsistent across studies and rarely replicated. This failure of candidate gene studies, which mirrored a similar pattern across complex disease genetics more broadly, prompted a shift toward genome-wide association studies (GWAS), which scan the entire genome for common genetic variants associated with disease without prior hypotheses about which genes are likely to be involved.

The results of GWAS for schizophrenia have been transformative, if also humbling. The largest GWAS of schizophrenia, conducted by the Psychiatric Genomics Consortium and involving hundreds of thousands of participants, have identified hundreds of genomic loci associated with schizophrenia at genome-wide significance levels. Each of these variants individually has a tiny effect on risk (odds ratios typically in the range of 1.05 to 1.15), but their cumulative effect, as measured by the polygenic risk score (PRS), is substantial: individuals in the top decile of polygenic risk for schizophrenia have approximately five to ten times the risk of the general population. The 2024 review by Tandon and colleagues noted that "genetic risk factors likely include thousands of common genetic variants that each have a small impact on an individual's risk," alongside "a plethora of rare gene variants that have a larger individual impact."

The rare variant story is equally important. Copy number variants (CNVs), submicroscopic deletions or duplications of chromosomal segments, have been found to substantially increase risk for schizophrenia. The most studied is the 22q11.2 deletion (velocardiofacial syndrome or DiGeorge syndrome), which carries an approximately 20 to 25 percent lifetime risk of schizophrenia. Other risk-associated CNVs include deletions at 1q21.1, 15q11.2, and several other loci. These rare variants, while each rare in the population, collectively account for a meaningful proportion of schizophrenia risk, particularly in early-onset cases.

A striking and theoretically important finding from GWAS is the substantial genetic overlap between schizophrenia and other psychiatric conditions. Schizophrenia shares significant genetic risk with bipolar disorder, major depression, autism spectrum disorder, and attention deficit hyperactivity disorder. Genetic variants near the MHC region, which governs immune function, are among the most significant and consistent findings in schizophrenia GWAS, providing genetic support for the neuroinflammatory hypothesis. The strongest single GWAS locus in schizophrenia, in the complement component 4 (C4) gene region, was shown in a landmark 2016 study in Nature by Sekar and colleagues to be related to the role of C4 in synaptic pruning during brain development, providing a potential molecular link between genetics and the neurodevelopmental hypothesis.

It is important to note, as was pointed out in the 2025 Exploratory Neuroscience review, that some critics have argued that "genetics has failed schizophrenia" in the sense that decades of intensive genetic research have not yet produced clinically actionable biomarkers or therapeutic breakthroughs. This criticism has some validity: knowing a patient's polygenic risk score does

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not currently change clinical management, and no schizophrenia gene variant has led to a new drug. The genetic architecture of schizophrenia is so complex, with thousands of small-effect variants distributed across the genome, that simple pharmacological targeting of individual variants is not feasible. The path from genetic discovery to clinical application requires understanding the biological mechanisms through which risk variants exert their effects on brain development and function, a research program that is still in its early stages.

53.5 Neurodevelopmental Factors: The "Two-Hit" Model and the Developmental Trajectory

The neurodevelopmental hypothesis of schizophrenia, developed in the 1980s and subsequently strongly supported by epidemiological, neuroimaging, and genetic evidence, proposes that schizophrenia is not a degenerative condition beginning in adult life (as Kraepelin's term "dementia praecox" implied) but is a disorder of brain development that begins prenatally or in early childhood, though its overt clinical manifestations are typically not expressed until adolescence or early adulthood.

Several lines of evidence support this neurodevelopmental account. First, subtle cognitive and neuromotor abnormalities are detectable in people who will later develop schizophrenia well before the onset of any psychiatric symptoms, in some studies as early as infancy. These premorbid abnormalities include mild reductions in IQ, subtle delays in language and motor development, and difficulties with social relationships and play. Second, risk factors for schizophrenia that are temporally remote from the age of onset include prenatal events such as maternal infection, malnutrition, and stress, obstetric complications, and winter or spring birth (suggesting seasonal variation in prenatal infection exposure or maternal vitamin D status). Third, the structural brain abnormalities found in schizophrenia, most consistently lateral ventricular enlargement and reduced gray matter volume in prefrontal and temporal regions, are present at the time of first psychotic episode and do not appear to progress substantially after that point, suggesting an early rather than progressive origin.

The "two-hit" model of schizophrenia proposes that the disorder requires at least two separate adverse events or exposures: a first "hit" that establishes a neurobiological vulnerability during early brain development, and a second "hit" that occurs during adolescence and triggers the expression of psychosis in the vulnerable brain. The proposed second hits include cannabis use (which substantially increases psychosis risk in those with a genetic predisposition), other stressors, and the normal maturational process of synaptic pruning that occurs during adolescence. The synaptic pruning process, in which approximately half of synaptic connections formed during childhood are eliminated during adolescence in a process of neural circuit refinement, may in genetically vulnerable individuals lead to excessive pruning of cortical synapses, particularly in the prefrontal cortex, contributing to the negative symptoms and cognitive impairments of schizophrenia.

The synaptic pruning hypothesis, supported by the C4 complement gene findings mentioned above, has attracted considerable attention as a potential explanation for why schizophrenia typically manifests clinically in late adolescence and early adulthood, the period when synaptic pruning is most active. It also has therapeutic implications: if excessive synaptic pruning is part of the pathophysiological mechanism, then interventions that modulate the pruning process might potentially prevent or mitigate schizophrenia in high-risk individuals. This is an active area of preclinical research, though clinical applications remain a long way off.

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The neurodevelopmental framework has important implications for Bangladesh. Prenatal and perinatal risk factors including maternal malnutrition, antenatal infection, and obstetric complications are all more prevalent in Bangladesh than in high-income countries. Whether these higher rates of relevant prenatal exposures translate into a higher risk of neurodevelopmental contributions to schizophrenia in the Bangladeshi population has not been systematically studied, but it represents an important and underexplored research question.

53.6 Structural and Functional Brain Abnormalities

Neuroimaging studies of schizophrenia have produced a large and reasonably consistent literature on structural and functional brain abnormalities, even if the specific patterns are more heterogeneous than early enthusiasts hoped. The most robust structural findings, replicated across many studies and confirmed in large meta-analyses, include:

Lateral ventricular enlargement, present in a substantial proportion of patients with schizophrenia. This is one of the most replicated findings in all of biological psychiatry, visible on computed tomography (CT) as well as magnetic resonance imaging (MRI), and present in first-episode patients before any antipsychotic treatment. Ventricular enlargement reflects a reduction in adjacent brain tissue and is a nonspecific marker of several processes affecting brain volume.

Reductions in total gray matter volume, with the most consistent regional findings in the superior temporal gyrus, the medial temporal lobe (including the hippocampus and parahippocampal gyrus), the prefrontal cortex (particularly the dorsolateral prefrontal cortex), and the thalamus.

Abnormalities in white matter integrity, detected using diffusion tensor imaging (DTI), suggesting disruptions in the connectivity between brain regions. The white matter tracts most consistently implicated include those connecting frontal and temporal regions (the uncinate fasciculus, the arcuate fasciculus) and the internal capsule, supporting a model of schizophrenia as a disorder of neural connectivity (dysconnectivity) rather than simply a disorder of specific brain regions.

Functional neuroimaging studies using fMRI and PET have revealed abnormalities in the pattern of brain activation during cognitive tasks, including characteristic hypoactivation of the dorsolateral prefrontal cortex during working memory tasks ("hypofrontality") and abnormal activation patterns in temporal and limbic regions. Resting-state fMRI studies have identified abnormalities in the default mode network and in the connectivity between the default mode network and other resting-state networks.

The clinical utility of neuroimaging in the diagnosis and management of schizophrenia in Bangladesh is currently very limited. CT and MRI are available primarily in private facilities in Dhaka and a few other urban centers, and their cost is prohibitive for most patients. Moreover, the structural and functional abnormalities described above are group-level findings without the diagnostic specificity required for individual diagnosis: no single neuroimaging finding reliably distinguishes a person with schizophrenia from one without. For the time being, neuroimaging in Bangladesh is used primarily to exclude organic causes of psychosis (brain tumors, vascular lesions, hydrocephalus) rather than to make a positive diagnosis of schizophrenia.

CHAPTER FIFTY-FOUR: EPIDEMIOLOGY OF PSYCHOTIC DISORDERS IN BANGLADESH

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54.1 Global Epidemiology: Establishing the Baseline

Before examining the epidemiology of psychotic disorders in Bangladesh specifically, it is useful to establish the global baseline against which Bangladeshi data should be interpreted. Schizophrenia has a lifetime prevalence of approximately 0.3 to 1.0 percent across the populations that have been studied, with the median estimate from systematic reviews hovering around 0.7 percent. The incidence of schizophrenia is approximately 10 to 22 per 100,000 per year in most settings, though this figure varies substantially across studies depending on the breadth of the diagnostic criteria applied. Schizophrenia accounts for a disproportionate share of the global burden of disease measured in disability-adjusted life years (DALYs) relative to its prevalence, because of its typically early onset, its association with persistent functional impairment, and its long duration. The Global Burden of Disease 2019 study estimated that schizophrenia contributed approximately 13.4 million DALYs globally, ranking it among the more burdensome of all health conditions.

The median age of onset of schizophrenia is approximately 18 to 25 years in men and 25 to 35 years in women, with men generally showing both earlier onset and somewhat more severe course. The reasons for this gender difference in age of onset are not fully understood but may reflect the protective effect of estrogen on dopaminergic systems, the later timing of the synaptic pruning process in women, or differences in patterns of cannabis use (a recognized risk factor) between men and women.

Life expectancy in schizophrenia is substantially reduced compared to the general population: people with schizophrenia die on average 15 to 20 years younger than age-matched peers without the condition. This "mortality gap" has not narrowed over recent decades despite improvements in antipsychotic treatment, and is primarily attributable to cardiovascular disease (strongly associated with the metabolic effects of antipsychotic medications and with lifestyle factors including smoking, sedentary behavior, and poor diet), suicide (which accounts for approximately 5 to 10 percent of deaths in schizophrenia, with approximately 30 to 40 percent of people with schizophrenia making a suicide attempt at some point in their lives), and other physical health conditions including diabetes (itself associated with antipsychotic treatment), respiratory disease, and infections.

54.2 The Bangladesh Epidemiological Picture: Key Data and Their Interpretation

The epidemiological data on schizophrenia and related psychotic disorders in Bangladesh has improved substantially in recent years, though important gaps remain. The National Mental Health Survey Bangladesh 2019, based on a nationally representative sample of 7,270 adults, found a prevalence of schizophrenia spectrum disorders of 1.0 percent, which is at the upper end of global estimates. A 2025 analysis of this dataset by Sarkar and colleagues, published in Schizophrenia Bulletin, provided the first nationwide household survey data on schizophrenia in Bangladesh, with a weighted prevalence of 0.6 percent (95 percent confidence interval: 0.4 to 0.9 percent).

The Sarkar et al. 2025 study yielded several findings that are both clinically and theoretically significant. First, it found that schizophrenia was significantly associated with unemployment, a family history of mental illness, a family history of suicidal behavior, and being divorced or separated. These associations are consistent with what is known from other countries and reflect both the causal effects of schizophrenia on social functioning (leading to unemployment and

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relationship breakdown) and the reverse causal pathways (social disruption increasing stress and exacerbating illness). Second, and perhaps most strikingly, the study found that the prevalence of schizophrenia did not significantly differ between urban and rural residents, or between income groups or educational levels. This challenges the commonly held assumption, derived primarily from high-income country research, that schizophrenia is more prevalent in urban areas and in people of lower socioeconomic status. The authors suggest that these urbanicity and socioeconomic associations may be specific to high-income country contexts and may not replicate in low- and middle-income country settings where the social ecology of psychosis is quite different.

Third, and most concerningly from a public health perspective, only 39.3 percent of individuals diagnosed with schizophrenia in this survey had received any treatment. This treatment gap, while representing some improvement over earlier estimates that placed treatment coverage at below 20 percent, remains enormously high by any standard. Approximately 60 percent of Bangladeshis living with schizophrenia are receiving no care at all, a finding that has profound implications for individual suffering, for family burden, and for the social and economic costs of the condition.

The WHO GBD 2017 data had estimated the prevalence of schizophrenia in Bangladesh at 0.2 percent, substantially lower than the survey-based estimate of 0.6 to 1.0 percent. This discrepancy likely reflects methodological differences between model-based prevalence estimates and direct household surveys, and it reinforces the importance of investing in high-quality epidemiological data collection rather than relying solely on modeled estimates.

54.3 Risk Factors for Schizophrenia in the Bangladesh Context

Understanding the risk factors for schizophrenia in Bangladesh requires mapping the global risk factor literature onto the specific environmental and social conditions of Bangladesh, while remaining alert to the possibility that the risk factor profile may differ in important ways from what has been established in high-income country research.

Genetic risk factors operate in Bangladesh as they do elsewhere, since there is no reason to believe that the genetic architecture of schizophrenia differs fundamentally across populations. Family history of schizophrenia is the strongest single risk factor for the condition, with first-degree relatives of people with schizophrenia having approximately a tenfold elevated risk. In Bangladesh, where consanguineous marriage (marriage between relatives) is more common than in many other countries, particularly in rural areas and among some communities, the potential for concentration of genetic risk within families is a relevant consideration, though the magnitude of the additional risk from consanguinity specifically has not been quantified in Bangladeshi populations.

Cannabis use is a well-established environmental risk factor for schizophrenia. The evidence that heavy cannabis use, particularly starting in adolescence and involving high-potency cannabis, substantially increases the risk of psychosis in those who are genetically predisposed is now considered robust and replicated. In Bangladesh, cannabis (ganja) use is widespread, particularly among young men, and is often regarded culturally as relatively benign. The public health implications of this risk factor are considerable: meaningful reductions in adolescent cannabis use through effective prevention programs could plausibly contribute to a reduction in the incidence of psychosis.

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Prenatal and perinatal factors are particularly relevant in Bangladesh. Maternal malnutrition, including folate, iron, and protein deficiency, is associated with increased risk of neurodevelopmental problems in offspring, and while the specific link with schizophrenia risk has not been established in Bangladeshi populations, the theoretical grounds for concern are strong. Vitamin D deficiency, associated with reduced sunlight exposure during pregnancy, has been proposed as a risk factor for schizophrenia, and while Bangladesh is a sunny country, vitamin D deficiency is nonetheless documented in Bangladeshi women, particularly those who observe purdah. Perinatal complications including birth asphyxia and very low birth weight are also associated with increased schizophrenia risk, and these complications remain more prevalent in Bangladesh than in high-income countries.

Childhood adversity, including physical and sexual abuse and neglect, has been identified in a growing number of studies as a risk factor for psychosis, with the risk approximately tripling in those who have experienced multiple forms of adversity. In Bangladesh, where child maltreatment, particularly corporal punishment and emotional neglect, remains common and where the social systems for recognizing and reporting child abuse are weak, this risk factor may be of particular importance.

Social isolation and the experience of social defeat and exclusion have been proposed as risk factors for psychosis, particularly in the context of migration and ethnic minority status. The massive internal migration in Bangladesh, from rural to urban areas and particularly to Dhaka, creates conditions in which people from rural backgrounds experience social marginalization, cultural disruption, and reduced social support in their new urban environment. Whether this creates a specific increase in schizophrenia risk analogous to what has been observed in migrant and ethnic minority populations in Western Europe is an important and understudied question.

54.4 The Treatment Gap: Scale, Determinants, and Consequences

The treatment gap for schizophrenia in Bangladesh is both large and, in its consequences, devastating. Understanding the determinants of this gap requires analysis at multiple levels.

The most fundamental determinant is the extreme scarcity of mental health professionals. With approximately 250 to 350 psychiatrists for a population of 170 million people, Bangladesh has a psychiatrist-to-population ratio of approximately 0.15 to 0.2 per 100,000, which is among the lowest in the world and vastly below the WHO's recommended minimum of 1 per 100,000. The Pabna Mental Hospital, the dedicated psychiatric hospital for the greater part of the country outside Dhaka, has a catchment area of tens of millions of people and a total bed capacity that would be wholly inadequate for a city of comparable size in any high-income country. The National Institute of Mental Health (NIMH) in Dhaka, Bangladesh's leading psychiatric center, provides both inpatient and outpatient services but is overwhelmed by demand and is accessible only to those who can reach Dhaka and afford the associated costs.

Stigma is a second major determinant of the treatment gap. Schizophrenia carries profound stigma in Bangladesh. The person with schizophrenia is often referred to by derogatory terms ("pagol," meaning mad) that strip them of personhood and social status. Their family may conceal the condition from neighbors, friends, and potential marriage partners for their other children, knowing that the disclosure of schizophrenia in a family may devastate marriage prospects across generations. This stigma drives many families toward concealment and, when concealment is no longer possible, toward traditional healing rather than mental health services, not only because traditional healers offer an explanatory framework that is culturally

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meaningful (spirit possession, black magic) but because consultation with traditional healers does not carry the same social consequences as a psychiatric diagnosis.

The financial cost of treatment is a third major barrier. In a country where a substantial proportion of households live close to the poverty line, the cost of antipsychotic medications, outpatient consultations, and the travel and accommodation costs associated with accessing services in urban centers represents a significant financial burden. Families often make catastrophic healthcare expenditures in pursuit of effective treatment for schizophrenia, trying multiple private practitioners and traditional healers before finding effective care, and this financial strain can itself push vulnerable families into poverty.

The consequences of the treatment gap are severe. Untreated schizophrenia is associated with progressive functional deterioration, higher rates of suicide, increased exposure to violence and exploitation (people with untreated psychosis are more likely to be victims of violence than perpetrators, despite the popular association between psychosis and violence), family breakdown, homelessness, and preventable premature death. The family burden of caring for a person with untreated schizophrenia in Bangladesh is enormous: family members, particularly women, may give up employment, education, and social life to provide constant care and supervision for a relative with severe psychosis. The effects on children in these families, including exposure to psychotic behavior, disruption of normal family functioning, and reduced educational and economic opportunities, represent a multigenerational legacy of untreated mental illness.

CHAPTER FIFTY-FIVE: CLINICAL ASSESSMENT OF PSYCHOTIC DISORDERS IN BANGLADESH

55.1 The Psychiatric Interview in the Context of Psychosis

The psychiatric interview is the foundation of clinical assessment in schizophrenia and other psychotic disorders. Unlike most other areas of medicine, in which the physical examination and laboratory investigations provide objective data that can confirm or refute a clinical hypothesis, in psychiatry the interview remains the primary source of diagnostic information. This places heavy demands on the clinician's communication skills, cultural competence, observational acuity, and capacity for empathic engagement.

Several features of the psychiatric interview in the context of psychosis deserve specific discussion. First, the person experiencing acute psychosis may not recognize that they are ill and may not want to be interviewed by a psychiatrist. The clinical concept of "insight" in schizophrenia refers to the patient's capacity to recognize that they have a mental illness, that their symptoms are symptoms rather than reflections of reality, and that they need treatment. Insight in schizophrenia is multidimensional and variable: a patient may have some awareness that their experiences are abnormal without attributing them to mental illness, or may accept a mental illness diagnosis without believing that they need medication. Insight is impaired to a significant degree in a large majority of patients during acute psychotic episodes, and its absence is one of the principal reasons why people with schizophrenia often refuse treatment.

The assessment of insight requires sensitivity and skill. Directly confronting a patient's delusional beliefs, or insisting that they accept a psychiatric diagnosis against their expressed view, is rarely productive and may damage the therapeutic relationship. A more effective

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approach is to engage with the patient's own concerns and experiences, exploring what they find distressing or troubling, what they want help with, and what their explanatory framework is, before gradually introducing alternative perspectives in a manner that respects the patient's autonomy and that does not require immediate abandonment of their own understanding.

Second, the interview should include both the patient and, where possible (and with the patient's consent), a key informant such as a family member who has observed the patient's behavior over time. This is particularly important in schizophrenia because the patient may minimize or lack awareness of symptoms that are apparent to those around them. Family members can provide information about the onset and duration of symptoms, changes in behavior and functioning, premorbid personality, family history of mental illness, and the patient's response to any previous treatments. In Bangladesh, where family members are typically closely involved in all aspects of care-seeking and decision-making, engaging the family from the outset is not only culturally appropriate but clinically essential.

Third, the interview should explore the patient's explanatory model: what they believe is causing their experiences, whether they attribute them to physical illness, spiritual causes, interpersonal factors, or something else. Understanding the patient's explanatory model is essential both for building a therapeutic alliance and for identifying the most effective ways to engage the patient in treatment.

55.2 The Mental State Examination: A Systematic Approach

The Mental State Examination (MSE) is a systematic assessment of the patient's psychological functioning at a particular point in time, analogous to the physical examination in general medicine. It provides a structured account of the patient's current mental state that can be communicated clearly between clinicians, used as a baseline against which subsequent assessments can be compared, and recorded in the clinical record.

The MSE has the following components, each of which is assessed through observation and directed inquiry:

Appearance and behavior: The clinician observes the patient's overall appearance (dress, grooming, hygiene, eye contact, posture, facial expression), the quality and quantity of psychomotor activity (normal, reduced, or increased), and any abnormal movements including the extrapyramidal side effects of antipsychotic medications (tremor, rigidity, akathisia, tardive dyskinesia).

Speech: The clinician assesses the rate, rhythm, volume, and spontaneity of speech, and its formal qualities (evidence of thought disorder including loosening of associations, circumstantiality, tangentiality, neologisms, perseveration, echolalia).

Mood and affect: The clinician distinguishes between mood (the patient's subjective report of their emotional state) and affect (the objective observation of emotional expression). In schizophrenia, mood may be fearful, suspicious, perplexed, or neutral, and affect may be blunted, flat, or incongruent with the content of thought.

Thought form and content: Form refers to the organization and coherence of thought (see formal thought disorder, above). Content refers to the themes and preoccupations of thought, including the presence of delusions (their type, content, intensity, and the patient's conviction about them), obsessional thoughts, overvalued ideas, and suicidal ideation.

Perceptions: The clinician enquires systematically about hallucinations in all modalities (auditory, visual, tactile, olfactory, gustatory), the presence of illusions, and the patient's

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experience of their own mental processes (thought insertion, thought withdrawal, thought broadcasting, thought echo).
Cognition: A brief cognitive assessment including orientation to time, place and person, attention, memory, and in some cases more extensive neuropsychological testing. In schizophrenia, cognitive impairment is common and may not be detected without systematic assessment.
Insight: The patient's understanding of their condition, its nature, and its treatment implications.
Judgment: The patient's capacity to make reasonable decisions about their own welfare and safety.
Risk assessment: A specific and systematic assessment of risk of harm to self (including suicidal ideation, intent, plan, and access to means) and to others.
In the Bangladeshi clinical context, the MSE must be conducted through a Bangla-language framework that captures culturally relevant presentations. Several standardized assessment instruments have been developed in Bangla versions for use in clinical and research settings, including the Bangla versions of the Positive and Negative Syndrome Scale (PANSS), the Brief Psychiatric Rating Scale (BPRS), and the Global Assessment of Functioning (GAF). The PANSS is the most widely used standardized assessment for schizophrenia and consists of 30 items assessing positive symptoms (7 items), negative symptoms (7 items), and general psychopathology (16 items), each rated from 1 (absent) to 7 (extreme). The PANSS has been validated in Bangladeshi populations and is used in clinical research at NIMH and other centers.

55.3 Differential Diagnosis: Ruling In and Ruling Out

The differential diagnosis of a first presentation with psychotic symptoms is among the most important clinical tasks in psychiatry, because it determines whether the appropriate management is antipsychotic medication for schizophrenia, mood-stabilizing treatment for a psychotic mood disorder, medical treatment for an organic psychosis, or supportive management for a brief psychotic reaction. Getting this diagnosis wrong can have serious consequences: treating a manic patient with antipsychotics alone without mood stabilization may leave them at risk of further episodes; failing to identify an organic cause of psychosis may result in an underlying medical condition being left untreated.
The major conditions to be considered in the differential diagnosis of a first psychotic presentation include:
Schizophrenia and related primary psychotic disorders (as classified in ICD-11, discussed above). The diagnosis of schizophrenia requires the exclusion of all the alternative diagnoses described below.
Bipolar disorder with psychotic features: Psychotic symptoms are common during manic and depressive episodes in bipolar disorder. The key distinguishing features are the temporal relationship between psychosis and mood disturbance (in psychotic affective disorders, psychosis typically occurs during, and resolves with, the mood episode, whereas in schizophrenia it persists independently of mood) and the longitudinal course (bipolar disorder is characterized by episodes of mania and/or depression between which functioning is relatively preserved, whereas schizophrenia tends to produce more persistent impairment).
Severe depressive episode with psychotic features: Severe depression can be accompanied by mood-congruent psychotic symptoms such as delusions of guilt, nihilistic delusions, or

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hallucinations consistent with depressive themes. The diagnosis is established by the primacy and severity of the depressive syndrome.

Substance-induced psychotic disorder: A range of substances including cannabis, amphetamine and methamphetamine (yaba), cocaine, alcohol (delirium tremens), and hallucinogens can produce acute psychotic states. The diagnosis requires establishing a clear temporal relationship between substance use and the onset of psychotic symptoms, and documenting resolution of psychosis with abstinence. A urine toxicology screen is essential in all first presentations with psychosis. As discussed in Part Four, yaba-induced psychosis is a particularly important consideration in Bangladesh and may closely resemble schizophrenia in its acute presentation.

Organic psychoses: A range of medical conditions can produce psychotic symptoms, including neurological conditions (epilepsy, particularly temporal lobe epilepsy; brain tumors; encephalitis; traumatic brain injury; multiple sclerosis), endocrine conditions (thyroid disease, both hypothyroidism and hyperthyroidism; Cushing's syndrome; Addison's disease), autoimmune conditions (systemic lupus erythematosus; anti-NMDA receptor encephalitis), metabolic conditions (hepatic encephalopathy; electrolyte disturbances), infections (central nervous system infections including tuberculous meningitis, viral encephalitis, and in appropriate epidemiological contexts cerebral malaria), and vitamin deficiencies (vitamin B12 deficiency). The key clinical features that should prompt investigation for an organic cause include: atypical age of onset, atypical symptom profile (prominent visual hallucinations, marked clouding of consciousness, prominent cognitive impairment, focal neurological signs), a clear temporal relationship with physical illness, no family history of psychotic illness, and the absence of premorbid personality changes consistent with the prodrome of schizophrenia. In Bangladesh, where the burden of infectious diseases, nutritional deficiency, and undiagnosed medical conditions is substantial, organic causes of psychosis deserve particular attention.

Anti-NMDA receptor encephalitis, discovered in 2007 by Josep Dalmau and colleagues, deserves specific mention because it is frequently misdiagnosed as schizophrenia or acute psychotic disorder, particularly in its early stages. It is an autoimmune condition in which antibodies against the NMDA receptor's NR1 subunit produce a characteristic syndrome including psychosis, autonomic instability, movement disorders, and seizures, often with an associated ovarian teratoma in women. Recognition of anti-NMDA receptor encephalitis is important because it is treatable: immunotherapy (steroids, intravenous immunoglobulin, rituximab) and removal of any associated tumor can produce dramatic improvement. The condition is almost certainly underdiagnosed in Bangladesh due to limited awareness and absence of routine antibody testing, and its misdiagnosis as schizophrenia can lead to years of inappropriate antipsychotic treatment.

Brief psychotic disorder / Acute and transient psychotic disorder: Psychotic episodes with acute onset, full symptom resolution within three months, and complete functional recovery may represent brief psychotic disorder (DSM-5-TR) or acute and transient psychotic disorder (ICD-11). As discussed earlier, these conditions appear to be more prevalent in low- and middle-income countries including Bangladesh, possibly reflecting the role of stress and social context in triggering brief, reactive psychotic episodes in culturally specific ways.

Dissociative disorders: Trance and possession states, which are common in Bangladesh, may superficially resemble psychotic episodes but are characterized by their typically brief and episode duration, their cultural contextualization, and the preservation of the self-narrative of the person outside the trance state. The distinction between dissociative trance, culturally sanctioned possession experience, and psychotic hallucinatory experience is one of the most

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challenging differential diagnostic tasks in Bangladeshi psychiatry, and one that requires both clinical skill and cultural knowledge.

Delusional disorder: As discussed in the classification section, delusional disorder is characterized by circumscribed delusions without the disorganization, hallucinations, and negative symptoms that characterize schizophrenia. The distinction can be difficult, particularly in the early stages, but has treatment implications.

Personality disorders with psychotic features: Schizotypal disorder and borderline personality disorder can include brief psychotic-like experiences, including transient paranoid ideation, dissociative experiences, and micro-psychotic episodes, particularly under stress. These are distinguished from schizophrenia by their briefer duration, their context-sensitivity (typically triggered by stress and resolving with resolution of the stress), and the overall clinical picture.

55.4 Investigations in Psychotic Disorders: What to Do in the Bangladesh Setting

The investigations appropriate for a first presentation with psychosis serve two purposes: excluding organic causes of psychosis and establishing a baseline for monitoring the effects of treatment and the metabolic effects of antipsychotic medications. In the Bangladesh setting, the approach to investigation must be tailored to what is available, accessible, and affordable, while ensuring that dangerous organic causes are not missed.

A basic investigation panel for a first episode of psychosis should include:

Full blood count: To identify infection (elevated white cell count), anemia (which can contribute to cognitive impairment and exacerbate psychiatric symptoms), and thrombocytopenia (which may indicate a systemic illness).

Erythrocyte sedimentation rate or C-reactive protein: Markers of systemic inflammation that may point toward an autoimmune or infectious cause.

Urea and electrolytes: Electrolyte disturbances (hyponatremia, hypernatremia, hypocalcemia) can cause or exacerbate psychotic symptoms.

Liver function tests: Hepatic encephalopathy can produce psychosis; elevated liver enzymes may indicate alcohol-related liver disease or other systemic illness.

Fasting glucose and lipid profile: As a baseline before initiating antipsychotic medications, given their propensity to cause metabolic side effects, and to identify pre-existing metabolic disorders.

Thyroid function tests (TSH and free T4): Both hypothyroidism and hyperthyroidism can produce psychiatric symptoms including psychosis.

Vitamin B12 and folate: Deficiency of both can produce neuropsychiatric symptoms including psychosis and cognitive impairment, and B12 deficiency in particular is underdiagnosed in Bangladesh.

Urine toxicology screen: To detect the presence of substances including cannabis, amphetamines, and opioids. This is essential in all first-episode presentations and should be obtained before any antipsychotic treatment is initiated.

Syphilis serology (VDRL or TPHA): Neurosyphilis can produce a range of psychiatric presentations including psychosis, and while its prevalence has declined, it remains relevant in high-risk populations.

Blood culture: If there is clinical suspicion of central nervous system infection (fever, meningism, altered consciousness).

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Lumbar puncture and cerebrospinal fluid analysis: Indicated when central nervous system infection or anti-NMDA receptor encephalitis is suspected, and in any atypical presentation with clouding of consciousness, autonomic instability, or movement disorder.
CT scan of the brain: Should be performed in any atypical presentation, in the presence of neurological signs, in older patients, and in any case where an intracranial cause (tumor, abscess, hemorrhage, hydrocephalus) is plausible. CT is more widely available than MRI in Bangladesh and is sufficient for excluding most space-occupying lesions.
Electroencephalogram (EEG): Indicated when temporal lobe epilepsy is in the differential diagnosis, in any presentation with altered consciousness or seizure-like features, and in presentations where anti-NMDA receptor encephalitis is suspected.
Anti-NMDA receptor antibodies: Should be requested in any presentation with psychosis accompanied by autonomic instability, movement disorder, seizures, or a high suspicion of encephalitis. Antibody testing requires specialized laboratory facilities, available at BSMMU and some private laboratories in Dhaka, but may not be accessible in other parts of the country.
HIV testing: With appropriate counseling, given the psychiatric manifestations of HIV and the elevated risk of tuberculosis (which can cause tuberculous meningitis with psychotic features) in HIV-positive individuals.
The metabolic monitoring panel (glucose, lipid profile, weight, blood pressure, and waist circumference) should be repeated at regular intervals during antipsychotic treatment, typically at three months and six months and then annually, because of the significant metabolic side effects of second-generation antipsychotics (discussed in the pharmacological management section).

CHAPTER FIFTY-SIX: THE PHARMACOLOGICAL MANAGEMENT OF SCHIZOPHRENIA

56.1 A Brief History of Antipsychotic Medications in Bangladesh

The history of antipsychotic pharmacotherapy in Bangladesh mirrors, with a characteristic time lag, the global history of antipsychotic drug development. Chlorpromazine, the first antipsychotic, was available in Bangladesh from the 1960s and, along with haloperidol (introduced in the early 1960s globally), remained the mainstay of antipsychotic treatment for decades. These first-generation antipsychotics (FGAs), also called conventional or typical antipsychotics, are potent D2 receptor antagonists. Their primary advantage is their effectiveness for positive symptoms; their primary limitation is their propensity to cause extrapyramidal side effects (EPS) including acute dystonias, Parkinsonism, and akathisia in the short term, and tardive dyskinesia with long-term use.
Second-generation antipsychotics (SGAs), also called atypical antipsychotics, began to enter the Bangladesh market in the 1990s and 2000s. The first SGA, clozapine, was actually introduced before the term "second generation" was coined, but its use is restricted by the need for regular blood monitoring due to the risk of agranulocytosis. Risperidone, olanzapine, quetiapine, amisulpride, aripiprazole, and ziprasidone are the SGAs that have become most widely used in Bangladesh, though their availability varies and their cost remains a significant barrier for many patients. SGAs have the advantage of a reduced (though not absent) propensity for EPS and tardive dyskinesia compared to FGAs, but this advantage is offset by their propensity to

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cause metabolic side effects including weight gain, dyslipidemia, glucose dysregulation, and (in the case of olanzapine and clozapine particularly) frank type 2 diabetes.
The current antipsychotic formulary available in Bangladesh includes chlorpromazine (100 mg, 200 mg tablets), haloperidol (0.5 mg, 2 mg, 5 mg, 10 mg tablets, 5 mg/mL oral solution, and 5 mg/mL injectable solution), risperidone (1 mg, 2 mg, 3 mg, 4 mg tablets and oral solution), olanzapine (2.5 mg, 5 mg, 10 mg tablets), quetiapine (25 mg, 100 mg, 200 mg tablets), clozapine (25 mg, 100 mg tablets), aripiprazole (10 mg, 15 mg, 30 mg tablets), and amisulpride (50 mg, 100 mg, 200 mg tablets) in varying availability and from different generic manufacturers. Long-acting injectable antipsychotics (LAIs), which are particularly important for patients with poor medication adherence, are available in Bangladesh in limited forms, with depot haloperidol decanoate and fluphenazine decanoate being the most accessible, and risperidone microspheres (Risperdal Consta) and paliperidone palmitate (Invega Sustenna) available at higher cost in some urban centers.

56.2 Principles of Antipsychotic Prescribing in Schizophrenia

The pharmacological management of schizophrenia is guided by a set of principles that apply across settings, though their implementation must be adapted to the specific circumstances of Bangladesh.
The primary goal of antipsychotic medication is the reduction of positive symptoms (hallucinations, delusions, disorganized thinking), which are the domain in which antipsychotics have the strongest evidence of efficacy. Antipsychotics do not cure schizophrenia; they manage its symptoms, reduce the risk of relapse, and support the conditions under which psychosocial recovery can occur.
The choice of antipsychotic should balance efficacy, tolerability, patient preference, and availability and cost. In Bangladesh, cost and availability are often the dominant considerations, since the most expensive and best-tolerated SGAs may be beyond the financial reach of many patients. The evidence base for most antipsychotics in treating positive symptoms is broadly comparable: no antipsychotic (other than clozapine for treatment-resistant schizophrenia) has demonstrated convincing superiority over others for positive symptom reduction. The major differences are in their side effect profiles, which vary substantially across agents and across individual patients.
Key principles for antipsychotic prescribing include:
Start low, go slow: Particularly for FGAs and for any patient who has not received antipsychotics previously, starting at a low dose and titrating upward gradually reduces the risk of distressing side effects and improves tolerability. Acute distress from EPS (particularly akathisia, the distressing feeling of inner restlessness, which is frequently misidentified as a worsening of agitation or psychosis and incorrectly treated with dose escalation) is a major driver of early treatment non-adherence.
Use the minimum effective dose: Higher doses of antipsychotics are not more effective for positive symptoms in most patients beyond a certain threshold and are associated with more side effects. The concept of "dopamine D2 receptor occupancy" is relevant here: effective antipsychotic response is associated with approximately 60 to 70 percent D2 occupancy in the striatum, and doses that produce occupancy above 80 percent are associated with significantly higher rates of EPS without additional therapeutic benefit. For most patients, relatively modest doses of most antipsychotics are sufficient to achieve adequate D2 occupancy.

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Monotherapy is strongly preferred: The use of two or more antipsychotic medications simultaneously (antipsychotic polypharmacy) is common in clinical practice in Bangladesh and elsewhere, partly because of the pressure to do something more when a patient is not responding, and partly because of inadequate knowledge about the evidence base. However, antipsychotic polypharmacy is associated with more side effects and drug interactions without convincing evidence of superior efficacy for most patients (clozapine augmentation is an exception, discussed below). Single-agent treatment at an appropriate dose, with adequate time to assess response before switching, is the recommended approach in all major guidelines.

Monitor for side effects systematically: Side effect monitoring should be systematic and regular, using structured tools where available. Key side effects to monitor include EPS (assessed with a standardized scale such as the Simpson-Angus Scale for Parkinsonism, the Barnes Akathisia Rating Scale for akathisia, and the Abnormal Involuntary Movement Scale for tardive dyskinesia), metabolic side effects (weight, BMI, waist circumference, glucose, lipids, blood pressure), prolactin-related side effects (amenorrhea, galactorrhea, sexual dysfunction, and in the long term osteoporosis) associated with dopamine-blocking agents, and anticholinergic effects (urinary retention, constipation, blurred vision, and cognitive impairment, particularly relevant with chlorpromazine and clozapine). In Bangladesh, the monitoring of antipsychotic side effects is often inadequate, partly because of the limited time available in busy outpatient clinics and partly because of limited awareness among both clinicians and patients.

Plan for long-term treatment from the outset: Schizophrenia is typically a chronic condition requiring long-term pharmacological treatment. The risk of relapse is very high following antipsychotic discontinuation: approximately 80 percent of patients relapse within five years of stopping medication compared to approximately 20 to 30 percent of those who continue. Establishing realistic expectations about the long-term nature of treatment from the beginning of the therapeutic relationship is essential for supporting adherence.

Address medication adherence proactively: Non-adherence to antipsychotic medication is extremely common in schizophrenia globally and is the leading cause of relapse and hospital readmission. In Bangladesh, adherence is particularly challenging because of the cost of medications, the distance to pharmacy and clinic, the absence of reminder systems, the beliefs of patients and families that schizophrenia can be cured and medication discontinued once symptoms resolve, and the stigma associated with indefinite psychiatric treatment. Proactive strategies for supporting adherence, discussed in detail in the section on psychosocial management, are an essential component of effective schizophrenia management.

56.3 Specific Antipsychotics: Pharmacology, Efficacy, and Side Effects

The following is a systematic account of the antipsychotics most relevant to clinical practice in Bangladesh.

Haloperidol, a butyrophenone, is the prototype FGA and remains among the most widely used antipsychotics in Bangladesh because of its low cost, wide availability, and established efficacy for positive symptoms. It is a potent D2 receptor antagonist with minimal activity at other receptor types. Its side effect profile is characterized by a high risk of EPS (particularly at doses above 10 mg/day) and a relatively modest metabolic risk. Its use in Bangladesh includes both oral and injectable formulations: the injectable form (haloperidol 5 mg/mL) is valuable for acute management of agitation in psychotic patients who refuse oral medication, while haloperidol

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decanoate (the depot injection, given every 4 weeks) is an important option for patients with recurrent non-adherence.

The recommended oral dose of haloperidol for schizophrenia is 5 to 20 mg per day in most adults, with some patients requiring higher doses under specialist supervision. Starting doses of 2.5 to 5 mg are recommended, particularly in patients who have not previously received antipsychotics, in elderly patients, and in patients with physical comorbidities. Prophylactic anticholinergic medication (procyclidine 5 mg orally twice or three times daily, or biperiden 2 mg twice daily) is routinely co-prescribed in Bangladesh when haloperidol is used, to reduce the risk of acute dystonia and Parkinsonism. While this practice adds to cost and introduces additional side effects (particularly anticholinergic cognitive impairment), it is pragmatic given the high rates of EPS with haloperidol and the distress these cause.

Chlorpromazine, a phenothiazine, has a broader receptor profile than haloperidol (including dopamine, histamine, muscarinic, and alpha-adrenergic antagonism) and a correspondingly broader side effect profile: sedation (which can be therapeutically useful in agitated patients), orthostatic hypotension (which can cause falls, particularly in older patients), anticholinergic effects, and photosensitization. It remains widely used in Bangladesh partly because of its very low cost and wide availability, but it is less favored in contemporary practice in settings where alternatives are accessible because of its more extensive side effect profile.

Risperidone is the most widely used SGA in Bangladesh. It is a potent D2 and serotonin 5-HT2A receptor antagonist. Its efficacy for positive symptoms is comparable to haloperidol, and it has a somewhat more favorable EPS profile at recommended doses (though EPS risk increases substantially at doses above 6 mg per day). Its main metabolic risk is significant: risperidone elevates prolactin levels more than most other SGAs, which can cause amenorrhea, galactorrhea, and sexual dysfunction (particularly important in young women), and in the long term may be associated with increased osteoporosis risk. It also causes significant weight gain and is associated with glucose dysregulation, though less so than olanzapine. Risperidone is available in Bangladesh in both brand-name and multiple generic forms, and its cost has fallen significantly over recent years, making it accessible to more patients.

Olanzapine is one of the most effective antipsychotics for positive symptoms and also has some evidence of greater efficacy for negative symptoms than most other agents. However, it is associated with the most significant metabolic side effects of any commonly used antipsychotic: mean weight gain of 3 to 5 kg within the first three months, marked elevation of blood glucose, and dyslipidemia. Olanzapine should be used with particular caution in patients who are already overweight, in patients with diabetes or a family history of diabetes, and in patients at risk for cardiovascular disease. In Bangladesh, where the prevalence of diabetes and metabolic syndrome is high, olanzapine's metabolic risk profile warrants careful consideration. It remains useful in patients who have not responded to other agents, particularly those with prominent agitation and behavioral disturbance, but its metabolic consequences must be actively monitored and managed.

Aripiprazole is a partial agonist at D2 receptors (rather than a pure antagonist), a mechanism of action that is associated with a favorable side effect profile: reduced risk of EPS compared to most FGAs, minimal prolactin elevation, and a more favorable metabolic profile than olanzapine or risperidone (though not without some risk of weight gain). Its main practical limitations in Bangladesh are its higher cost compared to FGAs and some generics of older SGAs, and some evidence of inferior efficacy for acute agitation. It is a reasonable choice for patients in whom metabolic or prolactin-related side effects are a particular concern.

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Quetiapine has a particularly broad receptor binding profile and a correspondingly sedating side effect profile. It is useful in patients with prominent insomnia or anxiety as comorbidities, and its lower propensity for EPS makes it a reasonable choice in patients who have been particularly sensitive to EPS with other agents. Its metabolic risks are intermediate between olanzapine and aripiprazole. Quetiapine abuse for its sedating properties has been reported in some clinical settings globally, though this is less well documented in Bangladesh.

Amisulpride is a selective D2/D3 receptor antagonist with a unique property: at low doses (50 to 300 mg/day), it preferentially blocks presynaptic D2 autoreceptors, thereby enhancing dopamine release in the prefrontal cortex; at higher doses (400 to 800 mg/day), it blocks both presynaptic and postsynaptic D2 receptors, producing antipsychotic effects. This dose-dependent mechanism makes low-dose amisulpride potentially useful for the management of predominantly negative symptoms. At higher doses, its side effect profile includes significant EPS risk and, more importantly, very significant prolactin elevation, which is a practical limitation particularly for female patients.

Clozapine occupies a unique position in the pharmacological management of schizophrenia. It is the only antipsychotic with established efficacy for treatment-resistant schizophrenia (TRS), defined as schizophrenia that fails to respond adequately to at least two antipsychotic trials of adequate dose and duration. Approximately 30 percent of patients with schizophrenia meet criteria for TRS, and clozapine is the evidence-based treatment for this group. Meta-analyses have consistently confirmed that clozapine is superior to other antipsychotics for TRS, with approximately 30 to 60 percent of TRS patients showing meaningful response to clozapine after failing other agents.

Clozapine's mechanism of action remains incompletely understood: it is a relatively weak D2 antagonist but has potent activity at D4, serotonin, norepinephrine, histamine, and muscarinic receptors, and has anti-inflammatory properties. Its remarkable efficacy in TRS is not explained by any single receptor mechanism. It also has the additional benefit of being the only antipsychotic with established anti-suicide properties: the InterSePT study, a landmark randomized controlled trial published in 2003, demonstrated that clozapine reduced suicidal behavior in people with schizophrenia more effectively than the comparator (olanzapine), an effect that has been attributed to multiple mechanisms including its direct effects on mood, its anti-aggressive properties, and its greater effectiveness in reducing the overall symptom burden.

The limitations of clozapine are significant. The most serious is agranulocytosis, a potentially fatal suppression of white blood cell production that occurs in approximately 1 percent of patients. This risk necessitates regular blood monitoring, specifically a full blood count before initiation and weekly for the first 18 weeks, then biweekly for one year, and monthly thereafter. This monitoring requirement is a significant practical barrier to clozapine use in Bangladesh, where laboratory access is inconsistent and where maintaining the discipline of regular monitoring is logistically demanding for both patients and health services. Other important side effects include sedation (often severe in the early treatment period), sialorrhea (excessive salivation, which can be distressing and socially embarrassing), seizures (dose-related, and more common with rapid dose escalation), weight gain (often substantial), metabolic effects, constipation (which can progress to life-threatening ileus if not managed), myocarditis (a rare but potentially fatal inflammatory condition of the heart, occurring primarily in the first month of treatment), and cardiomyopathy with long-term use.

Despite these limitations, clozapine is underused globally and almost certainly underused in Bangladesh. For patients with TRS, the risk-benefit calculation strongly favors clozapine: the

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risks of continued severe psychosis, suicide, and social deterioration are very high, while the risks of clozapine, though real and requiring active management, are manageable with appropriate monitoring. Ensuring that patients with TRS in Bangladesh have access to clozapine, with the necessary monitoring infrastructure, is an important clinical and policy priority.

Long-acting injectable antipsychotics (LAIs) deserve specific discussion because of their particular relevance to the problem of medication non-adherence in Bangladesh. LAIs, also called depot formulations, are antipsychotics formulated in an injectable suspension that is administered at intervals of 2 to 4 weeks (or in some newer formulations, monthly or every 3 months), allowing the medication to be released slowly from the injection site over the dosing interval. Because the medication does not require daily oral ingestion, the "decision" to take medication occurs only at the time of each injection rather than every day, substantially reducing the opportunity for non-adherence.

LAIs available in Bangladesh include haloperidol decanoate (50 to 200 mg every 4 weeks), fluphenazine decanoate (12.5 to 37.5 mg every 2 to 4 weeks), and risperidone microspheres (25 to 50 mg every 2 weeks) in some urban centers. The evidence from randomized controlled trials suggests that LAIs reduce relapse rates compared to equivalent oral antipsychotics, though the size of this advantage has been debated. In the naturalistic setting of routine clinical care, mirror-image studies (comparing relapse rates before and after switching from oral to LAI formulations) have consistently found substantial reductions in relapse and hospitalization rates with LAIs. For patients in Bangladesh who have a history of non-adherence and who live far from health services, LAIs offer particular advantages and should be more widely used than they currently are.

56.4 Management of Acute Psychosis: Crisis, Sedation, and Stabilization

The management of acute severe psychosis, particularly when accompanied by agitation, potential violence, or severe self-neglect, requires a calm, structured approach that prioritizes the safety of the patient and others, minimizes distress, and establishes a therapeutic foundation for longer-term treatment.

In Bangladesh, acute psychosis is managed in a range of settings including the emergency departments of teaching hospitals, private clinics and nursing homes, the wards of district hospitals, and occasionally in the community. The resources available for managing acute psychosis vary enormously across these settings, and the approach must be adapted accordingly.

The first priority in managing an acutely agitated psychotic patient is de-escalation: the use of calm, non-confrontational communication to reduce the patient's distress and agitation. The NICE Violence and Aggression guidelines (updated 2015 with ongoing recommendations maintained through 2024) and the equivalent frameworks from the American Psychiatric Association emphasize verbal de-escalation as the first-line intervention for behavioral disturbance, with medication used only when de-escalation has been unsuccessful or when immediate risk to life exists. De-escalation techniques include speaking calmly, maintaining a non-threatening posture, offering choices, acknowledging the patient's distress, and avoiding confrontation about delusional beliefs. These techniques require training and practice, and their use in Bangladesh is inconsistent.

When rapid tranquilization is required, the recommended approach in resource-limited settings combines an antipsychotic with a benzodiazepine. The oral route is preferred when the patient

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will accept oral medication: oral haloperidol (5 mg) plus oral lorazepam (1 to 2 mg) is a widely used combination. When the patient refuses oral medication or when the situation is immediately dangerous, intramuscular administration may be necessary: haloperidol 5 mg intramuscularly plus lorazepam 2 mg intramuscularly is the most widely used combination in Bangladesh. The newer formulations of intramuscular ziprasidone and intramuscular olanzapine, which have advantages in terms of side effect profiles for acute use, are generally not available in Bangladesh or are prohibitively expensive.

Monitoring is essential after intramuscular administration of antipsychotics and benzodiazepines: vital signs (pulse, blood pressure, respiratory rate, and oxygen saturation where available) should be monitored regularly for at least two hours following administration, and resuscitation equipment should be available for the rare but potentially fatal complication of respiratory depression.

Once the acute agitation is controlled, the priority shifts to establishing a therapeutic relationship, completing the assessment, and developing a treatment plan. Hospitalization may be indicated when the patient is at risk of harm to self or others, when they are unable to care for themselves, when they require close observation for side effects or medical comorbidity, or when outpatient management cannot be safely arranged. In Bangladesh, the very limited inpatient psychiatric capacity means that hospitalization decisions are often made under considerable resource pressure, and many patients who would ideally be admitted are managed as outpatients.

56.5 Antipsychotics and Physical Health: Managing the Metabolic Burden

One of the most important and underappreciated aspects of antipsychotic prescribing is the management of their metabolic effects. Antipsychotics, particularly SGAs, are associated with significant increases in body weight, elevated blood glucose, dyslipidemia, and hypertension. The combination of these metabolic effects, together with the sedentary lifestyles and poor diets common among people with schizophrenia, and the high rates of tobacco use in this population, contribute substantially to the elevated rates of cardiovascular disease and premature death in schizophrenia.

The metabolic burden of antipsychotics is not merely a side effect to be tolerated; it is a serious clinical and ethical issue. When a clinician prescribes an antipsychotic without monitoring and managing metabolic effects, they are effectively trading the benefits of antipsychotic treatment against an increased risk of diabetes, dyslipidemia, hypertension, and ultimately premature death from cardiovascular disease. This trade-off may be justified, but it must be made consciously, with appropriate monitoring and management of metabolic risk.

The metabolic monitoring recommendations established by major international guidelines require regular assessment of weight, BMI, waist circumference, fasting glucose or HbA1c, and fasting lipid profile. In Bangladesh, the implementation of these monitoring protocols is inconsistent. Many patients receive antipsychotic prescriptions from general practitioners or informal practitioners who are not familiar with metabolic monitoring requirements. Even in specialist settings, the pressure of high patient volumes and limited appointment times means that metabolic monitoring is often neglected.

Management strategies for antipsychotic-induced metabolic effects include: switching to a metabolically less harmful antipsychotic (aripiprazole has the most favorable metabolic profile among SGAs) when this is clinically feasible; lifestyle interventions including dietary advice and

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encouragement of physical activity; and pharmacological management of metabolic complications, including metformin for glucose dysregulation (which also has some evidence of modest weight loss benefit in antipsychotic-treated patients) and statins for dyslipidemia, when they meet the clinical threshold for treatment.

CHAPTER FIFTY-SEVEN: PSYCHOSOCIAL INTERVENTIONS IN SCHIZOPHRENIA

57.1 The Evidence Base for Psychosocial Interventions

The evidence that psychosocial interventions improve outcomes in schizophrenia is substantial and growing. This evidence has become increasingly important as the limitations of a purely pharmacological approach have become clearer: antipsychotic medications, while effective for positive symptoms, leave significant residual impairment in most patients, have no proven benefit for negative symptoms and cognitive deficits, and do not address the social consequences of illness or the recovery of meaningful function and quality of life.

A 2024 review in Lancet Psychiatry of fifty years of evidence on psychosocial interventions in schizophrenia concluded that cognitive behavioral therapy for psychosis (CBTp), family interventions, supported employment, social skills training, and cognitive remediation all have meaningful evidence of benefit and should be integrated into routine care. NICE UK guidelines (updated 2014 with content maintained through 2023) recommend that CBTp and family intervention should be offered to all people with schizophrenia, and that cognitive remediation and supported employment should be available. The APA Practice Guideline for Schizophrenia (updated 2021 with 2024 revision) makes similar recommendations. The WFSBP (World Federation of Societies of Biological Psychiatry) guidelines emphasize the importance of psychoeducation for patients and families as a foundation for all other interventions.

57.2 Cognitive Behavioral Therapy for Psychosis (CBTp)

CBTp is an adaptation of standard cognitive behavioral therapy that has been specifically developed for the symptoms and challenges of schizophrenia. It draws on the cognitive model's emphasis on the role of appraisals and beliefs in generating and maintaining distress, and applies this to the experience of hallucinations and delusions.

In CBTp, the goal is not to "disprove" delusional beliefs or to convince the patient that their voices are not real; such an approach is unlikely to be effective and may damage the therapeutic relationship. Instead, CBTp works collaboratively with the patient to explore the evidence for their beliefs, to develop alternative interpretations of their experiences, to reduce the distress and behavioral impact of voices and delusions, and to develop coping strategies that allow the patient to live more effectively with their experiences even when they persist.

The evidence for CBTp is strong for reducing distress from hallucinations and delusions, and moderate for reducing the overall severity of psychotic symptoms. It is less convincing for negative symptoms and cognitive impairment, though there are CBTp variants specifically targeting negative symptoms (including approaches based on the recovery model and behavioral activation) that show promise. CBTp also has evidence for reducing rates of hospitalization and for improving functioning and quality of life.

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Developing CBTp capacity in Bangladesh faces significant challenges. The numbers of trained clinical psychologists and other therapists with CBTp competence are very small. The training programs for clinical psychologists at BSMMU and other institutions have historically had limited CBTp content, and there has been little systematic investment in developing the workforce needed to deliver evidence-based psychological therapies. This is beginning to change: a small number of Bangladeshi psychiatrists and psychologists have received CBTp training through international partnerships, and there is growing recognition within the mental health community of the need to expand psychological therapy capacity. The development of simplified, culturally adapted CBTp protocols that can be delivered by trained community health workers or lay counselors (building on the "task-sharing" model discussed in Part One) represents a particularly important strategic opportunity.

57.3 Family Interventions: The Critical Importance of the Family in Bangladesh

Family intervention in schizophrenia is, arguably, the psychosocial intervention with the strongest evidence base and the most direct clinical relevance to Bangladesh. Family intervention addresses several key determinants of outcome in schizophrenia, including the family's understanding of the condition, the level of expressed emotion within the family, the family's capacity to support and maintain antipsychotic treatment, and the family's own psychological wellbeing.

The concept of "expressed emotion" (EE) refers to a set of attitudes and communication behaviors within family members of people with schizophrenia that has been consistently shown to predict relapse rates. High expressed emotion is characterized by the presence of critical comments (negative verbal statements about the patient's behavior or character), hostility (a more global negative attitude toward the patient as a person), and emotional over-involvement (excessively protective or emotionally intrusive behavior). The landmark studies of George Brown and Julian Leff in London in the 1970s and 1980s established that patients returning to homes with high EE relatives had dramatically higher relapse rates than those returning to low EE homes, and that family interventions that reduced EE could correspondingly reduce relapse rates. This research has been replicated in multiple countries and cultures.

Whether the EE construct and its relationship to outcome applies in exactly the same way in Bangladesh as in the UK research settings is a question that deserves more empirical attention. Several cross-cultural studies have found that EE varies across cultural settings and that its specific components (critical comments, hostility, emotional over-involvement) may have different significance in different cultures: emotional over-involvement, for example, may in some cultures reflect legitimate and adaptive family closeness rather than pathological enmeshment. However, the general principle that the emotional climate of the family environment affects outcomes in schizophrenia is likely to hold across cultural settings, even if the specific mechanisms and the culturally appropriate interventions may differ.

Family intervention in Bangladesh must be adapted to the cultural realities of Bangladeshi family life. The joint family system, in which multiple generations and nuclear families live together, means that intervention may need to involve not just the parents of the patient but also grandparents, siblings, aunts, uncles, and other significant family members. The patriarchal structure of many Bangladeshi families means that the head of the family (typically the father or, in his absence, the eldest brother) may need to be specifically engaged if interventions are to be effective. The stigma attached to schizophrenia means that family members may be reluctant to

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engage openly about their experiences in a group setting with families they do not know, which argues for the use of individual family interventions rather than multi-family groups in some cases.

The core components of effective family intervention in schizophrenia include: psychoeducation about the nature, course, and treatment of schizophrenia, delivered in a manner that is culturally sensitive and that engages with the family's own explanatory frameworks; communication skills training to reduce criticism and conflict within the family; problem-solving training to help families manage the practical challenges of caring for a relative with schizophrenia; and emotional support for family members, who bear an enormous burden in caring for their relative and who are at significant risk of psychological distress, depression, and burnout themselves.

A well-designed pilot family intervention program for schizophrenia in Bangladesh was reported by researchers at NIMH and Dhaka Medical College in 2023. The program delivered six sessions of structured psychoeducation and family skills training, adapted for the Bangladeshi cultural context, to families of patients with schizophrenia. It found significant improvements in family members' knowledge about schizophrenia, reductions in expressed criticism, and improved medication adherence compared to a control group receiving treatment as usual. While this is a small pilot study, it demonstrates the feasibility and potential benefit of culturally adapted family intervention in Bangladesh and provides a foundation for larger trials.

57.4 Supported Employment and the Importance of Occupation

Employment has profound significance for mental health and for recovery in schizophrenia. The benefits of employment are multiple: it provides income, social contact, structured time, a sense of purpose and identity, and the cognitive stimulation that may help to preserve cognitive function. Yet the rates of employment among people with schizophrenia are very low globally, typically below 15 percent in high-income countries and often lower in low-income countries, including Bangladesh, where the combination of severe stigma, poor symptom control, cognitive impairment, and absence of supported employment programs makes competitive employment extremely difficult for most people with schizophrenia.

The evidence-based approach to supported employment in schizophrenia is the Individual Placement and Support (IPS) model, developed in the United States in the 1990s by Deborah Becker and Robert Drake. IPS is built on eight core principles: rapid placement in competitive employment (rather than prolonged prevocational training); prioritizing the patient's preferences for type of work; integration with mental health treatment; zero exclusion (all patients who want to work are eligible, regardless of symptom severity or history); attention to patients' benefits counseling; systematic job search; individualized follow-along support; and a focus on competitive rather than sheltered employment. Multiple randomized controlled trials in high-income countries have shown that IPS produces competitive employment rates of approximately 50 to 60 percent over 18 to 24 months, compared to 20 to 25 percent with conventional vocational rehabilitation.

In Bangladesh, the formal infrastructure for supported employment of any kind for people with schizophrenia is virtually nonexistent. The social enterprise sector, while growing, has not yet developed a significant role in providing employment for people with mental illness. The stigma among employers toward hiring people with a psychiatric history is profound. And the specific cognitive and motivational impairments of schizophrenia create additional barriers to both obtaining and maintaining employment.

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However, the concept of supported employment can be adapted to the Bangladeshi context in ways that may be feasible even without the formal IPS infrastructure. Many Bangladeshis with schizophrenia work within family enterprises, typically in agriculture in rural areas or in informal sector economic activities in urban areas. Supporting the continuation or resumption of these activities, through psychoeducation and family work that helps family members understand that work is beneficial rather than harmful for their relative with schizophrenia, through interventions that address the specific cognitive and motivational barriers to work, and through the development of NGO-supported social enterprises that provide a graduated reintegration into productive activity, represents a culturally adapted approach to supported employment for Bangladesh.

57.5 Peer Support and the Recovery Movement

Peer support, the provision of emotional, informational, or practical support by people who have experienced mental illness themselves to others who are currently experiencing it, has emerged as a significant and evidence-based component of schizophrenia care globally over the past two decades. The unique value of peer support lies in the experiential credibility of the peer supporter: they speak with an authority that professionals cannot claim, because they have actually lived through what the person they are supporting is experiencing.

In Bangladesh, peer support for schizophrenia is nascent. A small number of mental health consumer organizations and advocacy groups have begun to emerge, primarily in Dhaka, that include people with lived experience of schizophrenia and other serious mental illness. Organizations like Moner Bondhu (Friend of the Mind), which provides both peer support and professional mental health services, have demonstrated that peer support can be developed and made culturally accessible in Bangladesh. Expanding peer support as a component of schizophrenia care in Bangladesh would require systematic investment in training and supporting peer support workers, developing the organizational infrastructure through which they operate, and integrating peer support into the formal mental health system.

The recovery movement's emphasis on personal agency, meaningful goals, and community participation is deeply compatible with the Islamic values of stewardship (khilafah), purposeful life (amal saleh), and community responsibility (ummah) that are central to the worldview of most Bangladeshi Muslims with schizophrenia. Recovery-oriented mental health services in Bangladesh should explicitly engage with these values, helping patients to see their recovery not as a passive medical process but as an active, purpose-driven journey that is consistent with their faith and their cultural identity.

CHAPTER FIFTY-EIGHT: TREATMENT-RESISTANT SCHIZOPHRENIA

58.1 Defining Treatment Resistance

Treatment-resistant schizophrenia (TRS) is a critically important clinical concept that is often inadequately recognized in resource-limited settings like Bangladesh. TRS is defined, by most major guidelines, as schizophrenia that fails to show an adequate clinical response to at least two antipsychotic trials, each of adequate dose (typically 400 to 600 mg chlorpromazine equivalents per day, or equivalent) and adequate duration (typically at least 6 weeks at an

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adequate dose), with adequate medication adherence. Approximately 20 to 30 percent of people with schizophrenia meet criteria for TRS.

The identification of TRS is important because it triggers a specific treatment algorithm: clozapine, the only proven treatment for TRS, should be initiated promptly once TRS is established, rather than continuing to cycle through alternative antipsychotics that have limited likelihood of being effective. Yet in practice, both in Bangladesh and globally, the average time from the recognition of non-response to the first antipsychotic to the initiation of clozapine is many years, during which the patient accumulates unnecessary suffering, functional deterioration, and the side effects of multiple ineffective antipsychotic trials.

The concept of "ultra-treatment-resistant schizophrenia" (UTRS) refers to patients who fail to respond even to clozapine, representing approximately 30 to 40 percent of the TRS population. This group presents the greatest therapeutic challenge in all of psychiatry. Current approaches to UTRS management include clozapine augmentation (adding a second antipsychotic to clozapine, though the evidence for this is limited and the side effect burden is increased), clozapine plus lamotrigine (the combination with the most consistent evidence of additional benefit, possibly through lamotrigine's effects on glutamatergic transmission), ECT as an augmentation strategy, and various experimental approaches. For Bangladesh, the recognition that UTRS exists and requires specific management, ideally at a specialist referral center, is an important clinical and policy priority.

58.2 Electroconvulsive Therapy in Schizophrenia

Electroconvulsive therapy (ECT) has a complex history in psychiatry, having been introduced in 1938, subsequently subjected to devastating critique (including the iconic portrayal in Ken Kesey's "One Flew Over the Cuckoo's Nest"), and then substantially rehabilitated by modern evidence. For schizophrenia, the evidence for ECT is most compelling in three situations: acute catatonia unresponsive to lorazepam (where ECT can be life-saving), acute severe psychosis with prominent affective features or when rapid response is needed, and TRS as an augmentation strategy when clozapine alone is insufficient.

In Bangladesh, ECT is available at NIMH, at the Pabna Mental Hospital, and at a small number of private facilities. It is administered almost universally under brief general anesthesia with modified (with muscle relaxant) technique, which is the international standard and which has largely eliminated the major risks of unmodified ECT that contributed to its poor historical reputation. The use of ECT in Bangladesh requires careful informed consent, clear indications, and adequate medical monitoring, and should be conducted only in settings with anesthesia support.

The indications for ECT in schizophrenia, and the specific evidence base supporting its use, should be clearly understood by Bangladeshi psychiatrists, both to ensure that ECT is used appropriately when indicated and to address the prevalent public misconception, fueled by its dramatic popular representation, that ECT is a form of punishment or torture. Properly conducted ECT with anesthesia is a safe and effective treatment for specific clinical indications, and its underuse in appropriate cases in Bangladesh represents a real cost in terms of treatable suffering.

CHAPTER FIFTY-NINE: CULTURAL DIMENSIONS OF PSYCHOSIS IN BANGLADESH

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59.1 The Phenomenology of Psychosis Through a Cultural Lens

The experience of psychosis is not culturally neutral. Culture shapes the content of delusions and hallucinations, the idioms through which psychotic experience is communicated, the explanatory frameworks through which patients and families understand what is happening, and the help-seeking pathways through which they respond to it. Understanding these cultural dimensions is not a peripheral concern for Bangladeshi psychiatrists; it is central to effective clinical practice.

The content of delusions in Bangladesh characteristically reflects the cultural and social world of the patient. Persecutory delusions in rural Bangladesh typically involve neighbors, relatives, or local rivals, and often incorporate beliefs about black magic (kala jadu or baan), the evil eye (nazar), or the malevolent agency of jinn. Religious delusions may involve special relationships with Allah or the Prophet, divine missions, or persecution by demonic forces. Grandiose delusions may involve claims to special religious authority or prophetic status. While the themes are culturally specific, the formal properties of the delusions (their certainty, their resistance to counter-evidence, their self-referential character) are similar to those seen in schizophrenia anywhere.

The content of auditory hallucinations similarly reflects the cultural world of the patient. Voices in Bangladesh commonly speak Bangla or the local dialect, and frequently incorporate religious language and concepts. The attribution of voices to jinn is particularly common: jinn are recognized in Islamic theology as a class of sentient beings created from smokeless fire, and their ability to speak to and influence human beings is theologically accepted. The diagnostic challenge is to distinguish between a person who reports that a jinn is communicating with them as part of a culturally normative spiritual framework and a person whose experience of jinn communication has the phenomenological qualities (intrusiveness, distress, loss of control, persistence) that characterize hallucinations in schizophrenia.

The concept of "cultural override" in psychosis refers to the ways in which culturally available frameworks can both shape the content of psychotic experiences and influence their assessment and diagnosis. A psychiatrist trained solely in Western diagnostic frameworks may over-diagnose psychosis in patients whose experiences are culturally normative, or may under-diagnose it in patients whose genuinely psychotic experiences are so seamlessly embedded in cultural idioms that they are indistinguishable, without skilled assessment, from ordinary religious or spiritual experience. Both errors have clinical consequences: over-diagnosis results in unnecessary antipsychotic treatment, while under-diagnosis leaves genuine illness untreated.

The WHO 1987 International Pilot Study of Schizophrenia and the subsequent DOSMD (Determinants of Outcome of Severe Mental Disorders) study found important cross-cultural differences in the frequency of specific symptom types in schizophrenia across participating countries. Auditory hallucinations were among the most universal symptoms, while the frequency of thought disorder and negative symptoms showed more cross-cultural variation. The relevance of these findings to Bangladesh is limited by the fact that Bangladesh was not a participant in these studies, and by the now-considerable time that has passed since they were conducted. A current study of the phenomenology of psychosis in Bangladesh, systematically using both quantitative assessment tools and qualitative methods to characterize the clinical presentation and its cultural context, would be a valuable contribution to the field.

59.2 Help-Seeking Pathways: The Journey Before the Psychiatric Clinic

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The pathway that a person with schizophrenia in Bangladesh takes before reaching a psychiatric clinic is typically long, expensive, and involving multiple providers across different healing systems. Understanding this pathway is clinically important, because what happens on the journey shapes the patient's beliefs about their condition, their readiness to engage with psychiatric treatment, and the condition in which they arrive.

The typical pathway in rural Bangladesh might proceed as follows: the initial onset of psychotic symptoms, characterized perhaps by social withdrawal, disturbed sleep, and unusual behavior, is attributed by the family to a spiritual or relational cause (a conflict that has attracted the evil eye, an offense to a local shrine, or the anger of a jinn). A local kabiraj (herbalist-healer) or ojha (exorcist) is consulted first, because they are near, affordable, and speak within a framework that is culturally familiar. Herbal remedies are prescribed and rituals are performed; there may be some temporary improvement (possibly reflecting the natural waxing and waning of psychotic symptoms), which reinforces the family's belief in the spiritual explanation.

When symptoms persist or worsen, a village doctor or palli chikitshak may be consulted, who may prescribe sedatives (benzodiazepines and phenothiazines are widely available over the counter in rural areas), which provide some symptom relief. As symptoms continue, a pilgrimage to a local shrine (mazar) may be undertaken, or the patient may be brought to reside at a shrine-based healing facility (the "bangla" associated with shrines), where they may live for weeks or months under the care of religious healers.

Eventually, if resources permit, the family may bring the patient to an urban center, first to a general physician or an informal practitioner, and ultimately, perhaps after years of illness, to a psychiatrist. By this time, the patient may have had years of untreated psychosis, resulting in significant and potentially irreversible cognitive and functional deterioration. The evidence from early intervention research suggests strongly that the duration of untreated psychosis (DUP) is a significant predictor of long-term outcome: longer DUP is associated with slower and less complete recovery. Every month of untreated psychosis represents a cost in terms of outcome, and the typical years-long delay in reaching psychiatric care in Bangladesh is a major driver of poor long-term outcomes.

The implications of this pathway analysis for service design are several. Awareness programs targeting families and communities, to enable earlier recognition of psychotic symptoms and more rapid referral to appropriate care, are a priority. Engagement with traditional and religious healers, not to displace them but to develop collaborative relationships through which they can identify patients who need psychiatric care and facilitate timely referral, is both pragmatic and consistent with a culturally respectful approach to mental health care. The integration of mental health awareness into the existing community health worker network (shasthya shebikas and shasthya karmis), who already have established relationships with rural households, represents a particularly promising strategy for reducing DUP in rural Bangladesh.

59.3 The Role of Shrines: A Complex and Contested Healing Institution

The shrines of Sufi saints (mazar or dargah) scattered across Bangladesh occupy a particularly complex and contested position in the landscape of mental health care. They are simultaneously sites of genuine spiritual significance for millions of people, institutions that provide shelter and basic care to some of the most severely ill and socially excluded members of society, and places where human rights violations including chaining, physical abuse, inadequate food, and denial of medical care have been documented by human rights organizations.

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The practice of bringing people with severe mental illness to shrines is not irrational within the framework of Islamic spirituality. The baraka (spiritual blessing) of the saint, believed to be present at the shrine, is understood as a source of healing power, and many Bangladeshis have stories of relatives who recovered from serious illness at shrines. The social meaning of a pilgrimage to a shrine, in which the family demonstrates its devotion and seeks divine intervention, may itself be therapeutic in ways that are not captured by purely biomedical frameworks.

The involvement of shrine-based healers in the care of people with schizophrenia needs to be understood through multiple lenses. From a pure biomedical perspective, most shrine-based interventions are not going to effectively treat schizophrenia, and the conditions in which patients are sometimes held at shrines (chained, inadequately fed, without access to medication) are likely to worsen rather than improve clinical outcomes. From a human rights perspective, the practices of chaining and physical restraint are unacceptable regardless of their spiritual justification. From a public health perspective, the shrines' function as de facto mental health institutions for the most severely ill and socially excluded patients means that any realistic mental health policy must engage with them rather than simply condemning them.

The most pragmatic and ethical approach to shrine-based mental health care in Bangladesh involves several elements: systematic advocacy for the elimination of inhumane practices (chaining, physical abuse, denial of food and medical care) within shrine settings, potentially through legislation and enforcement but more realistically through dialogue and engagement with shrine management committees and the broader ulama (Islamic scholars); establishment of partnerships between psychiatric services and shrine-based healers, in which psychiatrists visit shrines to assess and treat patients who are being managed there and to provide training to shrine staff in the recognition of conditions that require medical treatment; and engagement of Islamic scholars and religious leaders in developing a theological framework for understanding mental illness as a medical condition that is both compatible with Islamic belief and that justifies psychiatric treatment alongside spiritual care. Several successful models of this kind of engagement have been developed in other Muslim-majority countries and could serve as templates for Bangladesh.

CHAPTER SIXTY: SCHIZOPHRENIA AND THE FAMILY IN BANGLADESH

60.1 The Family as the Primary Caregiver

In Bangladesh, as across South Asia, the family is the primary institution of care for people with schizophrenia. The near-complete absence of community mental health services, the limited inpatient capacity, and the cultural expectation that families care for their own members combine to place an enormous caregiving burden on families of people with schizophrenia, a burden that falls most heavily on women within those families.

The caregiving experience for families of people with schizophrenia in Bangladesh is characterized by several recurring themes. Financial hardship is near-universal: the cost of treatments sought along the journey from traditional healer to psychiatrist, combined with the loss of productive contribution from both the patient and the primary caregiver, can devastate household finances, pushing families into debt and poverty. Social stigma is pervasive: families often experience what sociologists call "courtesy stigma" or "associative stigma," suffering

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discrimination and social exclusion by association with their relative's mental illness. Marriage prospects are affected not only for the patient but for siblings, a consequence that in Bangladeshi society, where marriage is a central institution and family honor is closely tied to it, can feel catastrophic.

Emotional burden is significant: family members experience grief, guilt (particularly mothers, who frequently blame themselves for their child's illness), fear, anger (which may be expressed through the high expressed emotion that predicts relapse), helplessness, and exhaustion. The profound avolition and self-neglect of the negative symptom domain is often experienced by family members as willful laziness or ingratitude, and this misunderstanding generates unnecessary conflict and distress on both sides.

Despite these enormous burdens, families also provide something irreplaceable: continuity of care, emotional connection, practical support, and the normalizing social context that is essential for functional recovery. The deinstitutionalization experience in high-income countries has demonstrated that community-based care, even when provided by trained professionals, cannot fully replicate what a supportive family can offer. The clinical imperative is not to supplant the family's role but to support it: to provide families with the knowledge, skills, and emotional support they need to be effective caregivers without sacrificing their own wellbeing.

60.2 Caregiver Burden: Assessment and Intervention

The assessment of caregiver burden is an important but often neglected component of schizophrenia management in Bangladesh. Standardized instruments including the Zarit Burden Interview and the Experience of Caregiving Inventory have been used in research settings in Bangladesh to quantify caregiver burden, but they are not routinely used in clinical practice.

The clinical assessment of caregiver burden should include enquiry about the objective burden (the practical demands of caregiving, including the time, money, and effort it requires), the subjective burden (the emotional and psychological impact on the caregiver), the impact on the caregiver's own physical and mental health, the quality of the relationship between caregiver and patient, and the available social support for the caregiver.

The burden on female caregivers in Bangladesh deserves specific attention. Women, as mothers, wives, and daughters, bear the overwhelming majority of caregiving responsibility for relatives with schizophrenia, often with little recognition or support. Many female caregivers in Bangladesh become effectively homebound in their caregiving role, sacrificing their own employment, social relationships, and personal development. The prevalence of depression among caregivers of people with schizophrenia in Bangladesh is high, though systematically understudied. Interventions that specifically target the wellbeing of female caregivers, including psychoeducation, peer support groups for caregivers, and respite care arrangements, are an important and underserved priority.

CHAPTER SIXTY-ONE: EARLY INTERVENTION IN PSYCHOSIS

61.1 The Case for Early Intervention

The evidence that early intervention in psychosis, specifically the reduction of the duration of untreated psychosis (DUP) and the provision of phase-specific, comprehensive care in the early

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stages of illness, improves long-term outcomes is now well-established. Early Intervention in Psychosis (EIP) services have become the standard of care in several high-income countries including the UK, Australia, Canada, and Scandinavian nations, and there is growing interest in their implementation in low- and middle-income countries.

The rationale for EIP is several-fold. The neurodevelopmental and neurobiological evidence suggests that the early psychotic period, particularly the first untreated episode, may be a period of maximal neurobiological disruption in which treatment can prevent or limit the degree of damage. The psychosocial evidence demonstrates that the early period is also a critical time for preventing the secondary consequences of psychosis, including the loss of educational and occupational opportunities, the disruption of social relationships, and the development of secondary depression, demoralization, and substance use. And the evidence from long-term follow-up studies consistently shows that DUP is a significant predictor of long-term outcome: every month of additional DUP is associated with meaningfully worse outcomes.

EIP services are typically designed to serve people in the early phases of psychotic illness (first episode and the first few years), providing a comprehensive, multidisciplinary package including pharmacological treatment, psychosocial interventions (CBTp, family intervention, supported education and employment), peer support, and active follow-up to prevent disengagement. They operate on the principle that the early years of psychotic illness are a critical period in which intensive investment can prevent the trajectory toward chronic disability.

The concept of the "at-risk mental state" or "ultra-high risk" (UHR) for psychosis adds an additional preventive dimension. People who exhibit attenuated psychotic symptoms (subthreshold hallucinations or delusions that are not persistent or severe enough to meet diagnostic criteria for a psychotic disorder), brief limited intermittent psychotic symptoms (transient psychotic episodes that resolve spontaneously), or a combination of functional decline and schizotypal features are at significantly elevated risk for developing a full psychotic episode: approximately 20 to 35 percent of UHR individuals develop psychosis within two years. Early identification and monitoring of UHR individuals, with appropriate psychosocial support and in some cases low-dose antipsychotic medication when indicated, offers the possibility of either preventing or delaying the onset of full psychosis.

61.2 Early Intervention in the Bangladesh Context

Implementing EIP principles in Bangladesh faces formidable but not insuperable challenges. The scarcity of specialist mental health services means that the comprehensive multidisciplinary EIP model used in high-income countries cannot be directly replicated. However, the core principles of EIP (reducing DUP through better community awareness and referral pathways, providing phase-specific care that addresses the specific needs of people in the early stages of psychosis, and supporting educational and occupational continuity) can be adapted and partially implemented even with limited specialist resources.

Specific strategies for implementing EIP principles in Bangladesh include:

Training of primary care physicians and upazila-level health workers in the recognition of early psychotic symptoms and the urgent referral pathways to psychiatric services. The WHO mhGAP guidelines include a module on psychosis that provides simplified recognition and initial management guidance for non-specialist health workers.

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Development of community awareness programs targeting the general public, traditional healers, school teachers, and religious leaders to improve early recognition of psychosis and reduce the delay before psychiatric care is sought.
Establishment of urgent first-episode psychosis pathways within existing psychiatric services, so that people presenting with a first episode of psychosis receive timely assessment and treatment initiation rather than waiting months for an appointment.
Development of specific support for the educational and vocational needs of young people with a first episode of psychosis, recognizing that psychosis most commonly strikes at the precise developmental moment when educational and vocational trajectories are being established.
Pilot testing of a Bangladesh-adapted EIP model, building on existing resources within NIMH and selected district hospitals, to generate evidence about feasibility and outcomes in the Bangladeshi context.
A 2024 paper in the International Journal of Mental Health Systems, reviewing early intervention initiatives in South Asian low- and middle-income countries, concluded that adapted EIP models combining specialist clinical care with task-sharing approaches, community awareness activities, and family support could be developed and tested in settings like Bangladesh, and that such investment was likely to be cost-effective given the potential to prevent the trajectory toward chronic disability.

CHAPTER SIXTY-TWO: SCHIZOAFFECTIVE DISORDER AND OTHER RELATED CONDITIONS

62.1 Schizoaffective Disorder: Clinical Features and Diagnostic Challenges

Schizoaffective disorder occupies an uncomfortable position in psychiatric nosology: simultaneously too psychotic to be classified as a mood disorder and too affective to be straightforwardly classified as schizophrenia. It is defined by the co-occurrence, within a single episode of illness, of the core symptoms of schizophrenia (delusions, hallucinations, or disorganized behavior) and a significant affective syndrome (either manic or depressive), with neither predominating.
The clinical picture of schizoaffective disorder is characteristically complex. A patient in a depressed-type schizoaffective episode may present with prominent depressive symptoms (low mood, anhedonia, anergia, nihilistic thinking) alongside psychotic features (auditory hallucinations, persecutory delusions) that persist even during periods when the mood is relatively less disturbed. A patient in a bipolar-type schizoaffective episode may present with an elevated or mixed mood state alongside prominent psychotic features, and may have a history of alternating manic and depressive schizoaffective episodes.
The diagnosis of schizoaffective disorder requires careful longitudinal assessment: it is important to establish that psychotic symptoms have been present for at least two weeks during periods when prominent mood symptoms were not present (this distinguishes schizoaffective disorder from a mood disorder with psychotic features, where the psychosis is mood-congruent and present only during mood episodes). The DSM-5-TR additionally requires that mood symptoms are present for the majority of the total duration of the active and residual phases of illness. Longitudinal rather than cross-sectional assessment is often essential for establishing this diagnosis reliably.

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The treatment of schizoaffective disorder combines elements of antipsychotic treatment (for psychotic symptoms) and mood treatment (for affective symptoms). In the bipolar subtype, mood stabilizers including lithium, valproate, or lamotrigine are combined with an antipsychotic. In the depressive subtype, antidepressants may be added to antipsychotic treatment, though with care given the risk of precipitating mania or worsening psychosis in some patients.

62.2 Delusional Disorder: The Circumscribed Conviction

Delusional disorder, as noted in the classification section, is characterized by the presence of one or more non-bizarre delusions that are relatively circumscribed and do not significantly impair overall functioning outside the sphere of the delusion. The person with delusional disorder often presents late to psychiatric services, if they present at all, because their functioning may be relatively intact and because they characteristically have no insight into the pathological nature of their beliefs.

Common presentations of delusional disorder in Bangladesh include:

Persecutory delusional disorder: The fixed, unshakeable conviction that specific individuals (neighbors, relatives, colleagues) are engaged in a conspiracy to harm, humiliate, or destroy the patient. The patient may have elaborate accounts of the conspirators' methods and motives, and may have taken precautionary actions (changing locks, moving house, confronting suspected conspirators) that reflect the delusional belief system. The conviction that one is the target of kala jadu (black magic) or baan by an identified individual is a common culturally shaped version of this presentation.

Jealous delusional disorder (Othello syndrome): The morbid conviction that a sexual partner is being unfaithful. This presentation can be extremely dangerous: violence toward the partner, arising from the delusional conviction of infidelity, is a recognized risk, and the assessment and management of this risk is a clinical priority.

Somatic delusional disorder: The conviction that one is physically diseased or infested, often despite extensive negative medical investigations. Delusional parasitosis (the conviction that one is infested with parasites) is a specific and well-recognized form. The patient typically presents not to a psychiatrist but to dermatologists, gastroenterologists, or other medical specialists, who are confronted with a conviction that no amount of negative testing can modify.

The treatment of delusional disorder is challenging. Most patients lack insight and resist psychiatric referral. Antipsychotic medications can be helpful in some cases, but response rates are lower than in schizophrenia and the evidence base is weaker. The therapeutic relationship and careful, respectful engagement with the patient's concerns, without either colluding with the delusional belief or confronting it directly, is the foundation of effective management.

CHAPTER SIXTY-THREE: CONTROVERSIES IN SCHIZOPHRENIA RESEARCH AND TREATMENT

63.1 The Antipsychotic Debate: How Good Is the Evidence?

The use of antipsychotic medications in schizophrenia, while supported by a large and generally consistent evidence base, has been the subject of significant controversy in recent years, driven

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partly by a re-examination of the existing evidence and partly by concerns about the long-term effects of antipsychotics on brain structure and function.

The Wunderink Study, a landmark Dutch randomized controlled trial published in 2013 and subsequently with updated data through 2023, found that patients randomly assigned to a strategy of dose reduction or discontinuation of antipsychotics after first-episode remission had lower rates of functional recovery in the first two years, but higher rates of functional recovery at the seven-year follow-up, than those maintained on standard antipsychotic doses. This finding, which has been extensively debated, raises the provocative possibility that long-term antipsychotic treatment may impair functional recovery in some patients, possibly through mechanisms including receptor supersensitivity and neuroplasticity effects.

The neuroimaging evidence on antipsychotic-associated brain changes has added to this controversy. A landmark meta-analysis by Vita and colleagues found that antipsychotic medications are associated with progressive gray matter reduction over time, a finding that could not be fully explained by the underlying illness. Animal studies have demonstrated that antipsychotics can produce neuroplasticity changes in the brain, including alterations in synaptic density and dendritic morphology. Whether these changes are harmful, neutral, or potentially adaptive is debated, and the clinical significance of the neuroimaging findings for individual patients is unclear.

The debate about antipsychotic dosing and duration of treatment is an important one that should inform clinical practice in Bangladesh. The emerging consensus, reflected in recent guidance from the British Psychological Society, the Critical Psychiatry Network, and in the increasingly influential "minimum effective dose" framework, is that:

Antipsychotic medications are clearly effective for reducing positive symptoms and preventing relapse in the acute and maintenance phases.

The minimum effective dose should be used, and regular "dose reviews" to consider dose reduction should be part of standard care rather than something that only happens when the patient or family requests it.

For patients with a first episode of psychosis who achieve full remission, a careful discussion about the risks and benefits of dose reduction or discontinuation, based on the individual's clinical profile and preferences, is appropriate after at least one to two years of stable remission. Shared decision-making, in which the patient's informed preferences are central to treatment decisions, is ethically required and clinically beneficial.

The controversy about long-term antipsychotic use does not support the abandonment of antipsychotic treatment for the majority of patients with schizophrenia; the risks of untreated or undertreated psychosis are well-established and severe. But it does support a more cautious and personalized approach to dosing and duration that takes seriously the potential long-term costs of antipsychotic treatment alongside its well-established benefits.

63.2 The Disease Concept Revisited: Is Schizophrenia One Thing?

Perhaps the most fundamental controversy in contemporary schizophrenia research concerns the validity of the diagnostic concept itself. The evidence from genetics, neuroimaging, phenomenology, and epidemiology has consistently pointed toward extraordinary heterogeneity within the category "schizophrenia": different patients appear to have different underlying neurobiology, different symptom profiles, different illness trajectories, and different treatment responses. As the 2024 Tandon et al. consensus review noted, "schizophrenia is increasingly

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considered to be a heterogeneous syndrome and not a singular disease entity," with boundaries that are "fuzzy" and that suggest "the absence of a categorical fit."

This heterogeneity raises a fundamental question: is there any scientific justification for treating schizophrenia as a single condition, or is it an assemblage of different disorders that happen to share some clinical features? Some researchers have proposed that the category should be abandoned entirely in favor of either more specific biological subtypes (based on genetic or neurobiological profiles) or broader spectrum dimensions (such as the RDoC's behavioral and neural systems). Others argue that the schizophrenia concept, while imperfect, captures something clinically meaningful and should be retained while being conceptualized as a heterogeneous syndrome rather than a unitary disease.

For clinical practice in Bangladesh, the debate about schizophrenia as a concept has practical implications. It supports an individualized, dimensional approach to assessment and treatment rather than a cookie-cutter application of diagnostic criteria. It encourages clinicians to attend to the specific symptom profile, cognitive profile, illness trajectory, treatment response history, and personal circumstances of each patient rather than simply applying the diagnostic label and the associated standard treatment algorithm. And it provides intellectual justification for the kind of sustained clinical engagement and ongoing formulation revision that characterizes excellent psychiatric practice.

63.3 Coercive Treatment: A Persistent Ethical Challenge

The use of coercive psychiatric treatment, including involuntary hospitalization and involuntary medication administration, is one of the most difficult ethical issues in psychiatry and is particularly complex in the context of schizophrenia, where the illness itself impairs insight and may lead to treatment refusal in patients who are at significant risk of harm.

The ethical justification for coercive treatment in schizophrenia is typically based on two principles: the prevention of imminent harm to the patient or others, and the patient's lack of decision-making capacity due to the illness. Both justifications face challenges. The prediction of future violence in psychiatric patients is notoriously inaccurate; most people with schizophrenia are not violent, and the risk of harm that is said to justify coercive treatment is often more speculative than real. The capacity assessment on which the second justification rests is clinically complex and can reflect clinician bias rather than genuine evaluation of the patient's decision-making ability.

In Bangladesh, the legal framework for involuntary treatment is provided by the Mental Health Act 2018, which allows for the compulsory assessment and treatment of persons who are deemed, by two medical practitioners, to be unable to make decisions about their treatment and to be at risk of harm to themselves or others. The procedural safeguards in the 2018 Act are weaker than those recommended by international human rights standards, including the UN Convention on the Rights of Persons with Disabilities (CRPD), which Bangladesh has ratified and which challenges the legitimacy of substituted decision-making in psychiatric care.

The UN Committee on the Rights of Persons with Disabilities has taken the position that all involuntary psychiatric treatment violates the right to legal capacity recognized in Article 12 of the CRPD, and that supported decision-making (in which the person with mental illness is supported to make their own decisions) rather than substituted decision-making (in which others decide on behalf of the person) should be the basis of mental health law. This position is controversial and has not been accepted in full by most countries, including Bangladesh, which

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continue to permit some form of involuntary psychiatric treatment for persons lacking decision-making capacity.
The ethical practice of coercive treatment in Bangladesh requires, at minimum: careful and documented assessment of the patient's decision-making capacity; use of the least restrictive means of achieving the legitimate treatment goal; active involvement of the patient's family in the decision-making process, consistent with cultural norms and with the patient's own wishes where these are known; regular review of any compulsory treatment order; clear channels for the patient to challenge the order; and avoidance of coercive treatment for purely social management purposes (such as controlling behavior that is inconvenient to others) rather than for genuine clinical necessity.

CHAPTER SIXTY-FOUR: SCHIZOPHRENIA AND PUBLIC HEALTH IN BANGLADESH

64.1 The Public Health Significance of Schizophrenia

Schizophrenia occupies a paradoxical position in public health. On the one hand, its prevalence (approximately 0.6 to 1.0 percent) is far lower than that of common mental disorders like depression and anxiety, making it less important in pure epidemiological terms. On the other hand, its individual impact is among the most severe of any health condition: it strikes in early adult life, it impairs multiple domains of functioning, it requires lifelong management, and it is associated with substantial excess mortality. The GBD data consistently ranks schizophrenia among the most burdensome of all health conditions in terms of YLDs (years lived with disability) relative to prevalence.
From a public health perspective, schizophrenia in Bangladesh presents several specific challenges and opportunities.
Primary prevention of schizophrenia in Bangladesh means addressing modifiable risk factors. Prenatal health (maternal nutrition, prevention of antenatal infections, reduction of obstetric complications through improved antenatal and delivery care), reduction of childhood adversity (through strengthening child protection systems), and reduction of cannabis use (through awareness and regulation) are all areas where public health action could plausibly reduce the incidence of schizophrenia over the coming decades.
Secondary prevention (early identification and treatment to prevent or limit deterioration) is addressed by EIP principles, discussed above. The case for investing in early identification and treatment of schizophrenia is strong: the economic modeling of the cost-effectiveness of EIP services in low- and middle-income country contexts consistently finds that investment in early identification and treatment is cost-effective even under conservative assumptions.
Tertiary prevention (rehabilitation and support for people with established schizophrenia to prevent further deterioration and support recovery and social reintegration) requires a comprehensive community mental health system that does not currently exist in Bangladesh. Building this system is a generational challenge, but it can begin with targeted investments: integrating basic schizophrenia management into primary care through the mhGAP framework, developing community-based rehabilitation programs in district headquarters, and supporting the NGO sector in developing supported housing and employment initiatives.

64.2 The Economic Cost of Schizophrenia in Bangladesh

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The economic cost of schizophrenia in Bangladesh has not been formally modeled, but estimates based on comparable data from other low- and middle-income countries suggest that it is substantial. The direct costs include the cost of treatment (medications, hospitalizations, outpatient consultations), which is borne primarily by families rather than the health system. The indirect costs, which are typically much larger, include the lost economic productivity of affected individuals (who have very low employment rates) and of family caregivers (who devote substantial time to informal caregiving at the cost of their own employment and productivity).

A simple calculation illustrates the scale: if there are approximately one million people with schizophrenia in Bangladesh (at a prevalence of 0.6 percent in a population of 170 million), and if the average loss of economic productivity attributable to schizophrenia is equivalent to even a modest proportion of the average GDP per capita, the aggregate economic cost is enormous. The failure to invest in schizophrenia treatment is not only an ethical failure but an economic one: effective treatment could meaningfully increase the productive contribution of this population and reduce the caregiving burden on their families.

64.3 Stigma Reduction as a Public Health Priority

Stigma associated with schizophrenia in Bangladesh is a public health emergency in its own right. The evidence that stigma is a major driver of the treatment gap, that it compounds the suffering of people with schizophrenia and their families, and that it perpetuates human rights violations, is overwhelming. Reducing stigma is, therefore, a public health priority of the first order.

The evidence base for anti-stigma interventions suggests that the most effective approaches are those that involve social contact with people who have schizophrenia: programs in which people with lived experience of schizophrenia speak directly to students, health professionals, community leaders, and employers about their experience of illness and recovery are consistently more effective than educational programs alone in changing stigmatizing attitudes.

In Bangladesh, anti-stigma efforts have been led primarily by civil society organizations, with limited government engagement. The development of a national anti-stigma campaign, grounded in local cultural and religious values (Islamic teachings about the obligation to care for the sick and the prohibition against discrimination on grounds of disability), involving people with lived experience of schizophrenia as the primary messengers, and targeting the specific attitudes (such as the belief that schizophrenia is caused by spirit possession and is contagious) that are most prevalent and most damaging in Bangladesh, represents an important public health opportunity.

CHAPTER SIXTY-FIVE: COMPREHENSIVE CASE STUDIES FOR PART FIVE

Case Study 65.1: First-Episode Psychosis in a Young Male University Student

Rahim is a 22-year-old male student at a public university in Dhaka, studying engineering. He is referred to the NIMH outpatient department by a physician at his university health center, accompanied by his parents who have traveled from their home district of Faridpur. The history is given primarily by his parents, as Rahim is initially reticent and appears distrustful of the assessment.

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His parents report that Rahim was a high-achieving student throughout secondary school, ranking among the top students in his district SSC and HSC examinations. He was sociable, hardworking, and ambitious, with clear plans for his future. Approximately one year ago, they began to notice changes: he became increasingly withdrawn, neglecting his studies, spending long hours alone in his room, and refusing to join family meals. He began to express odd ideas, saying that his university dormitory neighbors were "reading his mind" and that his professors were deliberately failing him as part of a conspiracy. He accused his mother of poisoning his food during a home visit, which was deeply distressing to the family.

Over the past three months, the deterioration has accelerated: he has stopped attending lectures entirely, is not sleeping and is wandering the dormitory at night, has stopped showering, and was recently found talking loudly to himself in his room. He has called his mother multiple times at night in an agitated state saying that "they" are coming to kill him.

Before reaching NIMH, the family consulted a local imam (Islamic religious leader), who performed ruqyah (Quranic healing recitation) over Rahim. They also visited a local kabiraj who prescribed herbal remedies and advised them that Rahim had been afflicted by kala jadu by a jealous classmate. A private physician prescribed diazepam 10 mg at night, which had some sedating effect but did not reduce the psychotic symptoms. The total duration from onset of symptoms to arrival at NIMH has been approximately twelve months, representing a DUP of approximately one year.

Mental State Examination reveals a thin, unkempt young man with poor eye contact, who is initially guarded and monosyllabic. After twenty minutes of gentle, non-confrontational engagement, he begins to speak more freely. He describes auditory hallucinations: two male voices that he hears as if coming from outside his head, talking about him in the third person, commenting on his activities ("he is sitting down, he knows what he did"), and issuing threatening statements at night. He describes a clear delusional system: he believes that a group of jealous classmates, working with some of his professors, have hired someone to perform black magic on him, which is the cause of the voices and the reason why he cannot think clearly. He believes his dormitory room is being surveilled by a camera hidden in the smoke detector. He is convinced of all these beliefs with absolute certainty and becomes mildly agitated when they are not immediately accepted. He does not have current suicidal ideation. His affect is flat, his speech slow and reduced in spontaneity. His cognitive testing reveals poor concentration (he cannot complete serial sevens), with otherwise grossly intact orientation and memory.

Assessment: The clinical picture is consistent with first-episode schizophrenia. The duration of one year of active symptoms, the prominent auditory hallucinations (two voices commenting in the third person), the systematized persecutory delusion with referential beliefs, the progressive social withdrawal and functional deterioration, and the flat affect and poverty of thought are all consistent with this diagnosis. Differential diagnoses considered include yaba or other stimulant use (urine toxicology is negative for amphetamines and cannabis), bipolar disorder with psychotic features (no evidence of a primary mood syndrome preceding or predominating over the psychosis), and organic psychosis (physical examination, blood tests, and CT brain are all unremarkable). The cultural formulation of the problem (the interpretation as kala jadu by the family) does not exclude the psychiatric diagnosis; rather, it represents the family's culturally meaningful framework for understanding what they have observed, and it shapes the help-seeking pathway that led to the current presentation.

Management plan:

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Pharmacological: Risperidone is chosen as the first-line antipsychotic, balancing efficacy, tolerability, and availability. A starting dose of 1 mg at night is prescribed, with planned weekly increases of 1 mg to a target dose of 4 to 6 mg daily. The choice of risperidone over haloperidol is made to reduce the risk of EPS, which would be particularly distressing for a young man already frightened and guarded. The family is given detailed written psychoeducation about the medication, including its expected time course of action (response may take four to six weeks), the most common side effects (mild sedation, possible weight gain, and, in rare cases, increased muscle stiffness), and the importance of not stopping the medication if the initial response is slow.

Psychoeducation: The family session is devoted to explaining the nature of schizophrenia in culturally appropriate terms: that the brain, like other organs of the body, can become unwell; that this kind of illness is known to run in families (confirming their observation that Rahim's maternal uncle had a similar illness); that the voices and beliefs Rahim is experiencing are symptoms of this brain condition, just as a fever is a symptom of an infection; and that effective treatment exists. The concept of kala jadu is engaged respectfully: the family is told that Islamic scholars recognize that jinn can affect human beings, but that the specific symptoms Rahim is experiencing are those of a medical condition that requires medical treatment, and that taking medication is consistent with the Islamic obligation to seek treatment for illness. The concept of "asbab" (seeking secondary causes, as commanded by Islamic teaching) is invoked to justify taking medication alongside any spiritual practices the family wishes to continue.

Safety: The degree of Rahim's current distress, his agitation, and the persecutory beliefs that include a belief that "they" are coming to kill him, together with his social isolation, require careful safety assessment. He is assessed as not having current intent or plan to harm himself or others, but as being at elevated risk of self-harm if the paranoia intensifies. A safety plan is developed that includes his mother staying with him in Dhaka initially, twice-weekly clinic visits, and emergency contact numbers for NIMH.

Follow-up and recovery planning: Referral to the NIMH clinical psychologist for CBTp, focusing initially on coping strategies for the voices and on normalizing the psychotic experiences within a cognitive framework, is planned for after the initial medication stabilization. Engagement with the university's disability services, to facilitate medical leave while Rahim is acutely unwell and to plan a graduated return when he has stabilized, is initiated through a liaison letter from the NIMH psychiatrist.

At the six-week follow-up, Rahim reports significant reduction in the voices (now heard only intermittently rather than continuously), and while he still harbors some beliefs about surveillance, he reports that they are "not as strong." He is sleeping better, engaging with his family, and has resumed basic self-care. The flat affect has partially improved. He is started on CBTp.

At the six-month follow-up, he is largely asymptomatic, has returned to his university on a reduced course load, and has begun to develop his own understanding of his illness that integrates both the psychiatric framework and his Islamic spiritual worldview. He is maintained on risperidone 4 mg daily. The family reports significantly reduced stigma-related distress following repeated psychoeducation sessions and report feeling "we understand now that he was sick, not possessed."

This case illustrates the typical presentation and management of first-episode schizophrenia in a young Bangladeshi man, the role of cultural and spiritual explanatory frameworks in shaping the

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help-seeking pathway and the engagement with psychiatric treatment, the integration of pharmacological and psychosocial management, and the importance of family psychoeducation.

Case Study 65.2: Chronic Schizophrenia with Treatment Resistance in a Rural Woman

Rokeya is a 42-year-old woman from a remote upazila in Mymensingh district. She is brought to the psychiatry outpatient clinic of the district hospital by her eldest son, who has taken a day's leave from his work as a garment factory worker in Dhaka to accompany her. Her husband died three years ago; she lives with her son and daughter-in-law and their three children.

The history, as pieced together from the son's account and from available records, reveals that Rokeya has been unwell since approximately the age of 22 years, when she began hearing voices and believing that her mother-in-law was trying to kill her by poisoning her food. She was taken to multiple spiritual healers over the first several years, spent six months at a mazar, and was seen briefly by a "psychiatrist" (actually a general practitioner) who prescribed haloperidol 5 mg, which she took inconsistently because of side effects (stiffness and restlessness) that no one explained to her.

Over the past twenty years, she has had multiple periods of severe psychotic relapse, during each of which she has been difficult to manage at home, has sometimes become aggressive toward family members, and on one occasion was found wandering along a highway at night and brought back by neighbors. She has spent approximately two cumulative years in the Pabna Mental Hospital over this period, during each admission receiving haloperidol and chlorpromazine, with partial response and discharge when behavior was managed, followed by rapid relapse in the community when medications were discontinued. She is currently on chlorpromazine 200 mg twice daily and haloperidol 10 mg at night, prescribed by a local physician.

At the current assessment, Rokeya is calm and cooperative. She has prominent auditory hallucinations: she hears a voice she identifies as that of her mother-in-law (who died five years ago), which comments on her actions and accuses her of various wrongdoings throughout the day. She has a persistent belief that neighbors are "watching" her and want to harm her family, and a belief that the food she eats is "not clean," leading to marked reduction in oral intake and significant weight loss. Her affect is blunted; she speaks in short sentences with long latencies. She reports profound avolition: she cannot motivate herself to perform household tasks, which falls entirely on her daughter-in-law. She has been unable to work in agriculture or to contribute economically to the household for many years.

The assessment concludes: chronic schizophrenia with persistent positive and negative symptoms despite multiple adequate antipsychotic trials; possible treatment-resistant schizophrenia (having received haloperidol and chlorpromazine at adequate doses for adequate periods without adequate response); significant nutritional compromise; and family system under significant stress.

The clinical decision is made to consider clozapine, given the persistent symptom burden despite adequate trials of two different antipsychotics. A detailed informed consent discussion with Rokeya and her son covers the rationale for clozapine, its expected benefits, the specific risks (agranulocytosis, the requirement for blood monitoring), the monitoring requirements, and the practical arrangements for obtaining blood tests (the nearest laboratory that can perform full blood counts reliably is at the district hospital, which requires a significant journey for Rokeya).

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A specific plan is made for implementing the clozapine monitoring protocol in the resource-limited context: the district hospital laboratory will perform monthly CBC monitoring after the initial more frequent monitoring at NIMH; the district psychiatry officer will supervise the monitoring process; and the son will be trained to recognize the warning signs of agranulocytosis (fever, sore throat, mouth sores) that should prompt immediate medical attention.

Clozapine is initiated at 12.5 mg at night and increased slowly over eight weeks to a target dose of 150 to 200 mg daily. At the three-month follow-up (which requires another full-day journey to the district hospital), Rokeya reports that the voice of her mother-in-law has become less frequent and less distressing, and that the beliefs about neighbors are "not as strong." Her appetite has improved and she has gained 2 kg. Her son reports that she has begun to perform some household tasks spontaneously for the first time in years. The CBC monitoring is within normal limits.

This case illustrates the management of chronic, treatment-resistant schizophrenia in a resource-limited rural setting, the specific challenges of implementing clozapine monitoring in this context, the impact of schizophrenia on the family system, and the importance of adapted, persistent clinical engagement even in the most challenging circumstances.

Case Study 65.3: Psychosis in a Rohingya Refugee Woman in Cox's Bazar

Fatima is a 28-year-old Rohingya woman, currently residing in the Kutupalong refugee camp in Cox's Bazar. She is brought to the UNHCR-supported mental health clinic within the camp by a female community health volunteer who has known her for several months. The volunteer reports that Fatima has been increasingly agitated and frightened over the past month, talking to herself, not sleeping, refusing to eat because she believes the food is being poisoned, and has been found wandering the camp perimeter at night.

The clinical assessment, conducted through a Rohingya-language interpreter trained in mental health assessment, is complex and requires particular sensitivity. Fatima's history includes profound trauma: she was present when her husband and father were killed by military forces in Myanmar in 2017; she witnessed the burning of her village; she was sexually assaulted during the flight to the border; she arrived in Bangladesh after several days of walking with two young children (now aged 7 and 9, living in the shelter with her); and she has spent seven years in the camp, with no prospect of return to Myanmar and no legal pathway to resettlement.

The differential diagnosis is broad and complex. Her psychotic symptoms (auditory hallucinations of a male voice speaking in Burmese that she cannot identify, persecutory beliefs about the food, and nocturnal wandering) could represent: schizophrenia (first episode, with the onset possibly antedating the 2017 trauma but masked by the chaos of displacement); trauma-related psychosis (the relationship between severe and repeated trauma and the onset of psychotic symptoms, which may present as a trauma-related dissociative or post-traumatic syndrome with psychotic features); acute stress reaction or acute PTSD with dissociative features; or organic psychosis related to malnutrition, anemia, or another medical condition.

The assessment reveals iron-deficiency anemia (hemoglobin 8.5 g/dL on a blood test performed by the camp health clinic), with clinical features consistent with chronic nutritional compromise. There is no prior psychiatric history before the 2017 trauma, though she reports that her maternal uncle had "a similar illness" (history uncertain). Her trauma exposure meets criteria for complex PTSD (ICD-11): she has been exposed to multiple, prolonged traumatic events, and

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demonstrates the core features of re-experiencing (nightmares, intrusive memories), avoidance, and the characteristic self-organization disturbances of complex PTSD (persistent beliefs that she is permanently damaged and worthless, difficulties regulating emotions, and marked difficulties in relationships).

The clinical formulation is: complex PTSD with secondary psychotic features, in a context of severe and ongoing psychosocial adversity, nutritional compromise, and absence of adequate social support. The psychotic features (hallucinations and paranoid beliefs) are understood as trauma-related rather than as primary schizophrenia, though the clinical distinction is not always clear-cut and requires ongoing monitoring.

Management in the camp context: Treatment resources are extremely limited. The mental health clinic has one clinical psychologist (a Bangladeshi national with mhGAP training) and access to a visiting psychiatrist once weekly. The medications available include haloperidol, amitriptyline, and diazepam.

Immediate management focuses on: iron supplementation and nutritional support (through liaison with the food assistance program); safety assessment (Fatima is assessed as not acutely suicidal but as vulnerable to self-harm given her despair and the intensity of her distress); provision of basic emotional support and psychoeducation about trauma; engagement of the community health volunteer as a daily contact person and support figure; and a low dose of haloperidol (0.5 mg at night) to provide some reduction in the acute psychotic symptoms, with careful monitoring given her nutritional status.

Longer-term, a plan is developed for trauma-focused psychotherapy using the Narrative Exposure Therapy (NET) protocol, which has been validated in refugee populations globally and adapted for use in South Asian contexts. NET is a structured, brief psychotherapy specifically designed for people who have experienced multiple traumatic events, which uses a "lifeline" technique to organize the traumatic experiences chronologically and to process them systematically. The camp psychologist, who has received NET training, begins fortnightly sessions with Fatima.

At the three-month review, Fatima is less acutely distressed. The haloperidol has been increased to 1 mg at night, with some reduction in the intensity of the psychotic symptoms. The NET therapy has progressed to session five of an eight-session protocol, and Fatima has begun to develop a narrative account of her traumatic experiences that she can hold without being overwhelmed. Her hemoglobin has improved to 10.2 g/dL with iron supplementation. Her children have been enrolled in the camp school, which has reduced one source of immediate stress.

This case illustrates the assessment and management of psychosis in a complex humanitarian setting, the differential diagnosis between primary psychotic disorder and trauma-related psychosis, the adaptation of evidence-based treatment to extreme resource constraints, and the public health significance of addressing mental health in refugee populations.

Case Study 65.4: Delusional Disorder Presenting as Interpersonal Violence

Kamal is a 38-year-old civil servant, referred to the psychiatry outpatient department by a police officer colleague who is concerned about his behavior. Kamal is accompanied unwillingly; he states clearly that he does not believe he needs psychiatric assessment and agrees to attend only because his department head has required it.

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The history, supplemented by a collateral account from his wife (obtained separately with appropriate consent), reveals that for approximately two years, Kamal has been convinced, with absolute and unshakeable certainty, that his wife Sakina is engaged in a sexual affair with a neighbor. His conviction is based on a series of observations that he has interpreted as evidence: she receives phone calls that she takes in another room, she dresses more carefully on certain days, she was observed speaking briefly with the neighbor on one occasion. Despite Sakina's repeated denials, despite an absence of any corroborating evidence from any other source, and despite the fact that she has willingly submitted to his inspection of her phone, her movements, and her social contacts, Kamal remains absolutely convinced.

His behavior in response to this conviction has escalated over the past year: he has physically assaulted the neighbor (charges were withdrawn after community mediation), he has prevented Sakina from leaving the house without his escort, he has beaten her on three occasions (causing bruising), and he has threatened to kill both her and the neighbor if he finds "proof." He has also conducted increasingly elaborate surveillance: he has obtained a cheap recording device that he has hidden in the marital bedroom, he logs Sakina's phone activity, and he has hired a local boy to observe the neighbor's movements.

The mental state examination reveals a composed, defensive, and intelligent man who believes he is entirely in the right and is being victimized by a mental health system colluding with his unfaithful wife. He does not have any other psychotic symptoms: no hallucinations, no thought disorder, no negative symptoms. His affect is appropriate and his reasoning is cogent, except for the fixed and unshakeable delusional conviction at the center of his thinking. He has good insight about the psychiatric diagnosis in the sense of understanding that a doctor is describing his beliefs as a symptom; he categorically rejects this framing.

The assessment establishes: jealous delusional disorder (Othello syndrome). The violence risk is assessed as high: he has a history of violence toward both his wife and the neighbor, he articulates ongoing threats, and his conviction has not diminished with time but has intensified. The immediate priority is the safety of Sakina and the neighbor.

A safety planning discussion is held with Sakina separately, covering her options for immediate safety including staying with relatives, the process for accessing police protection orders, and local resources for domestic violence support. The neighbor is also informed through appropriate channels about the risk.

Kamal is told clearly that his beliefs, while feeling entirely real to him, meet the criteria for a delusional disorder, a well-recognized medical condition in which the brain generates convictions that feel absolutely certain but are not grounded in reality. He is told that this is a medical condition, not a moral failing, and that it is treatable. He is started on risperidone 2 mg daily, chosen for its anti-delusional properties and its relatively manageable side effect profile. The rationale given to Kamal, carefully chosen to be acceptable to him without colluding with the delusion, is that the medication will "help his thinking to be clearer" and will "reduce the constant distress and agitation" that is clearly causing him suffering.

At the three-month follow-up, there has been modest improvement: Kamal reports that "the thoughts are less pressing" and that he has not been violent since starting the medication. The delusion itself persists but with reduced intensity and reduced behavioral response. The risperidone dose is increased to 4 mg daily. Marital therapy, framed as "communication support for a couple going through a difficult time" rather than as treatment for his illness (which he still does not acknowledge), is recommended.

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This case illustrates the clinical presentation and management of delusional disorder, the specific risk of violence in jealous delusional disorder, the challenges of engaging a patient who lacks insight, and the ethical and safety dimensions of managing this condition in the Bangladeshi context.

CHAPTER SIXTY-SIX: SUMMARY AND INTEGRATION; CONNECTIONS TO PART SIX

66.1 Key Themes from Part Five

Part Five has provided a comprehensive examination of schizophrenia spectrum and related psychotic disorders, integrating neuroscience, phenomenology, clinical medicine, pharmacology, psychosocial intervention, cultural analysis, public health, and ethics. The following key themes merit explicit integration as this Part concludes.

Psychosis is a disturbance of the most fundamental aspects of mental life: the relationship between self and reality, the integrity of inner experience, the coherence of thought, and the accuracy of perception. Its clinical manifestations, the positive symptoms of hallucinations and delusions, the negative symptoms of emotional blunting and avolition, and the cognitive impairments that pervade all aspects of functioning, are among the most devastating of any medical condition, precisely because they strike at the very capacities that define human selfhood and agency.

The neurobiology of schizophrenia is complex, multi-determined, and still incompletely understood. The dopamine hypothesis, while the most productive framework for drug development and still the foundation of all available pharmacological treatments, is recognized to be incomplete. The glutamate hypothesis, the neuroinflammatory hypothesis, the neurodevelopmental hypothesis, and the genetic and epigenetic frameworks all contribute important complementary insights. The most current synthesis, reflected in the 2024 and 2025 literature reviewed in this Part, understands schizophrenia as a neurodevelopmental syndrome whose genetic architecture involves thousands of common variants and many rare variants of larger effect, whose neurobiology involves dysregulation of multiple interacting systems including dopamine, glutamate, GABA, and the immune system, and whose clinical heterogeneity is not an artifact of poor classification but a genuine reflection of multiple pathophysiological pathways converging on a common phenotypic space.

The epidemiology of schizophrenia in Bangladesh is now better characterized than it was. The 2025 Schizophrenia Bulletin paper by Sarkar and colleagues, reporting the first nationwide household survey data on schizophrenia in Bangladesh, found a weighted prevalence of 0.6 percent, a treatment gap of approximately 60 percent, and specific correlates including unemployment, family history of mental illness, and marital disruption, while challenging the conventional assumption of urban excess risk. This data provides an essential foundation for evidence-based policy and service development.

The cultural context of psychosis in Bangladesh is not peripheral to clinical practice but central to it. The interpretation of psychotic experiences through the frameworks of spirit possession, black magic, and divine agency, the help-seeking pathways that lead through traditional healers and shrines before reaching psychiatric services, the profound stigma and social exclusion associated with the diagnosis, and the central role of the family as both the primary support

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system and the primary affected unit, are all dimensions that the Bangladeshi psychiatrist must engage with systematically and skillfully.

Pharmacological treatment with antipsychotic medications remains the foundation of schizophrenia management. Available antipsychotics are broadly effective for positive symptoms, have meaningful but limited effects on negative symptoms and cognitive impairment, and are associated with side effects that require active monitoring and management. Clozapine is the treatment of choice for treatment-resistant schizophrenia and is underused in Bangladesh. Long-acting injectable formulations are an important tool for managing non-adherence. The metabolic effects of antipsychotics are a major physical health risk that requires proactive monitoring and management.

Psychosocial interventions, including CBTp, family intervention, supported employment, and peer support, have substantial evidence of benefit and are integral to comprehensive schizophrenia care. Their availability in Bangladesh is currently very limited but is growing, and the development of culturally adapted, task-sharing-based psychosocial programs represents one of the most important strategic priorities for mental health system development.

The treatment gap for schizophrenia in Bangladesh is large, largely preventable, and morally unacceptable. Addressing it requires action at multiple levels: strengthening awareness and reducing DUP in communities, integrating schizophrenia management into primary care through the mhGAP framework, developing community mental health services, reducing stigma, and increasing investment in mental health within the national health budget.

66.2 Philosophical and Public Health Reflections

The philosophical dimensions of schizophrenia connect to the deepest questions about what it means to be a person, to have a mind, and to inhabit a shared social reality. The person with schizophrenia experiences a world that, from their perspective, is as real as the one the psychiatrist inhabits. The clinical challenge is not to assert the superior reality of the psychiatrist's world but to help the patient navigate between their experiential world and the shared world in ways that reduce their suffering and restore their functioning. This requires not only technical competence but epistemic humility, genuine curiosity about the patient's experience, and a deep respect for their personhood even when their experience is most alien to ordinary understanding.

From a public health perspective, schizophrenia in Bangladesh represents an enormous and largely invisible burden of suffering, disability, and premature death, and an enormous and largely wasted potential. The human beings who live with schizophrenia in Bangladesh are not merely statistics or categories; they are mothers, sons, farmers, teachers, workers, dreamers, and believers who, with effective treatment and adequate social support, are capable of meaningful recovery and meaningful contribution. The failure to provide them with the care that exists and is effective is not inevitable; it is a policy choice that can be unmade. The argument of this textbook, and of this Part specifically, is that making different choices, guided by evidence, by compassion, and by a genuine commitment to justice, is both possible and urgent.

66.3 Preview of Part Six

Part Six of this textbook will turn to the mood disorders: depressive disorders and bipolar spectrum conditions. These are the most prevalent of all the major psychiatric disorders,

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affecting millions of Bangladeshis across all ages, genders, and social strata. Depression, in particular, is a condition of enormous public health significance in Bangladesh: its association with poverty, gender inequality, intimate partner violence, and chronic physical illness makes it both a marker and a driver of the most profound social vulnerabilities of Bangladeshi society. Part Six will examine the phenomenology, neurobiology, epidemiology, cultural dimensions, and management of mood disorders with the same depth and cultural specificity that this Part has brought to the psychotic disorders. As in previous parts, the Bangladesh perspective will be central, and the integration of clinical medicine, public health, philosophy, and human experience will be the organizing principle.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART FIVE

Vignette 1: A 20-year-old male student presents with a two-month history of social withdrawal, declining academic performance, and the belief that his computer is being monitored by a government intelligence agency. He hears a female voice occasionally that he cannot identify, commenting on his activities. He was previously well and was described as a quiet but socially engaged student. Describe the differential diagnosis, the clinical assessment you would perform, and the investigations you would request. What information about the history would most help you to distinguish between a first episode of schizophrenia and a stimulant-induced psychosis?

Vignette 2: A 35-year-old woman is brought to your outpatient clinic by her husband. She has been unwell for four months with a belief that her neighbors have placed a curse on her family. She hears a voice saying prayers that she believes come from the shrine near her home. She has stopped cooking and cleaning, stays in bed most of the day, and is tearful. She has lost 6 kg in weight. Her husband reports that she often talks about "not wanting to be a burden." How would you assess this patient? What are the most important items in the differential diagnosis, and what are the specific features of each that would help you to distinguish between them? What is your immediate management plan?

Vignette 3: A 45-year-old man with a twenty-year history of schizophrenia has failed to respond adequately to haloperidol (up to 20 mg daily for six months) and subsequently to risperidone (6 mg daily for eight months) and olanzapine (20 mg daily for six months). He continues to have persistent auditory hallucinations, persecutory delusions, and significant negative symptoms. He is not currently suicidal. Describe the criteria for treatment-resistant schizophrenia, explain the evidence for clozapine in this situation, and outline the practical steps for initiating clozapine in a resource-limited setting, including the monitoring protocol.

Vignette 4: A family brings their 55-year-old mother to your clinic because her behavior has become "strange." She spends hours praying, claims to hear the voice of a deceased saint giving her religious guidance, has recently given away most of her possessions to a mosque, and has told the family that she has a special mission from Allah to warn the community of an approaching disaster. She was previously well and is a respected member of her community. How would you approach the differentiation of this presentation between a culturally sanctioned religious experience, a first episode of psychosis, and a manic episode with religious delusions? What features of the assessment would be most informative?

Vignette 5: You are a physician at an upazila health complex. A man brings his 28-year-old wife, explaining that she has been "mad" for six years, has spent three years at a shrine without benefit, and has received intermittent haloperidol from a local village doctor. She is currently

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calm but remains disorganized, hears voices, and spends most of the day sitting alone, staring. Using the mhGAP Intervention Guide for psychosis, describe how you would assess and initiate management for this patient at the upazila level, what medications you have available, and what the criteria are for referral to a specialist psychiatric facility.

STUDY QUESTIONS FOR PART FIVE

Describe the five primary negative symptom domains of schizophrenia. Why is it important to distinguish between primary and secondary negative symptoms? What are the implications of this distinction for clinical management in Bangladesh?
A 23-year-old male presents with a first episode of psychosis. List the investigations you would perform, and for each investigation, specify the clinical reasoning: what specific condition or complication does it help to identify? What would anti-NMDA receptor antibody testing reveal, and in which clinical presentations is it particularly indicated?
Critically evaluate the dopamine hypothesis of schizophrenia. What is the original evidence that led to its formulation? How has it been revised in light of subsequent neuroimaging and pharmacological evidence? What are its limitations as a complete account of schizophrenia pathophysiology, and what complementary hypotheses have been proposed?
Describe the principles of antipsychotic prescribing in schizophrenia. Compare the clinical profiles of haloperidol, risperidone, olanzapine, and clozapine in terms of efficacy, side effects, and the specific clinical situations in which each is preferred. Why is clozapine not used as a first-line treatment despite its superior efficacy in treatment-resistant schizophrenia?
Discuss the cultural dimensions of psychosis in Bangladesh. How do concepts such as jinn possession, kala jadu, and nazar shape the presentation and interpretation of psychotic symptoms? How should a Bangladeshi psychiatrist approach the assessment of a patient whose psychotic experiences are expressed in these cultural idioms? What are the clinical risks of both over-diagnosis and under-diagnosis in this context?
Explain the concept of expressed emotion (EE) and its relevance to schizophrenia management. What are the components of high EE, and what is the evidence for its effect on relapse rates? How should family intervention in schizophrenia be adapted for the Bangladesh context, and what are the key components of an effective family intervention program?
What is the "duration of untreated psychosis" (DUP) and why does it matter? Describe the barriers to early identification and treatment of psychosis in Bangladesh, and outline a strategy, grounded in the mhGAP task-sharing framework, for reducing DUP in a rural district.
Describe the ethical considerations involved in the use of coercive psychiatric treatment for a patient with schizophrenia who refuses medication. What criteria, under the Mental Health Act 2018, would justify involuntary treatment? How do international human rights standards, specifically the UN CRPD, relate to the Bangladeshi legal framework for involuntary treatment?
Discuss the public health significance of schizophrenia in Bangladesh. What is the estimated prevalence, the treatment gap, and the economic burden? What are the main modifiable risk factors, and what public health interventions could plausibly reduce the incidence and impact of schizophrenia in Bangladesh over the next two decades?
Analyze the 2025 nationwide household survey data on schizophrenia in Bangladesh (Sarkar et al., Schizophrenia Bulletin). What were the key findings regarding prevalence, correlates, and treatment gap? In what ways do these findings challenge conventional assumptions about

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schizophrenia epidemiology derived from high-income country research, and what are the implications for mental health policy and service planning in Bangladesh?

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Editorial Note: Part Five has addressed one of the most challenging territories in all of medicine and in all of human experience. Schizophrenia, in Bangladesh as everywhere, represents both a profound clinical challenge and a profound moral challenge: a challenge to medicine's capacity to understand and treat, and a challenge to society's capacity to include and support those whose experience of reality differs most radically from the mainstream. The case studies presented in this Part are composite portraits designed to reflect the genuine complexity and humanity of the people whose lives are shaped by psychotic illness. The science reviewed here is the best available as of 2025, but psychiatry is a living science, and today's certainties will be modified by tomorrow's evidence. What will not change is the imperative to treat people with schizophrenia with the dignity, respect, and skilled compassion that their suffering deserves.

The authors acknowledge the pioneering work of Bangladeshi psychiatrists, psychologists, nurses, and community health workers who care for people with schizophrenia under conditions of extraordinary resource constraint, often with great skill and dedication, and with little of the institutional support or professional recognition that their work warrants. The path toward adequate mental health care in Bangladesh is long, but it is being walked, one consultation, one family session, one policy advocacy moment at a time.

PART SIX: MOOD DISORDERS - DEPRESSIVE DISORDERS AND BIPOLAR SPECTRUM CONDITIONS

Tentative Title for the Complete Textbook: Psychiatry and Behavioral Science: A Bangladesh Perspective - A Comprehensive Textbook for Medical Students, Clinicians, and Public Health Professionals

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INTRODUCTORY NOTE TO PART SIX

Part Five closed with an observation that has remained with the editors of this text throughout the process of compiling this Part: that the human beings who live with serious mental disorders in Bangladesh are not statistics or categories, but mothers, sons, farmers, teachers, workers, dreamers, and believers. That observation is even more urgently true for the disorders addressed in this Part than for schizophrenia, not because schizophrenia is less important or less devastating, but because mood disorders touch more lives, reach more deeply into the social fabric of Bangladesh, and yet remain more systematically invisible than perhaps any other category of psychiatric illness.

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Depression, in particular, is the disorder that most people, even intelligent and educated people, believe they understand but do not. It is the disorder most often dismissed as ordinary sadness, weakness of character, or a failure of religious faith. It is the disorder most likely to be met with advice to "stay strong," to "think of what you have to be grateful for," or to pray more devotedly. It is the disorder most likely to be concealed by the person experiencing it, most likely to remain undetected by the physicians who might otherwise help, and most likely to result in the double burden of suffering from the condition itself and suffering from the shame and self-blame that stigma imposes on top of it.

This Part aims to change that picture, at least in the minds of those who read it. It aims to make depression, and the broader landscape of mood disorders including bipolar spectrum conditions, visible in their full complexity, their full biological depth, their full social embeddedness, and their full human significance. It aims to give clinicians the knowledge and the conceptual tools to recognize these conditions where they actually occur, which is predominantly not in psychiatry clinics but in primary care settings, general medical wards, communities, and families. And it aims to make the case, with evidence, that effective treatment exists, that the treatment gap in Bangladesh is not inevitable, and that closing it is both possible and urgent.

The integration of the Bangladesh perspective with global scientific knowledge is, as always, the organizing principle. Throughout this Part, the reader will find clinical science grounded in Bangladeshi epidemiological data, treatment recommendations calibrated to Bangladeshi resource contexts, case studies drawn from the kinds of clinical encounters that occur in Bangladeshi health settings, and cultural analysis that takes seriously the ways in which the categories and experiences of mood disorders are shaped by Bangladeshi social and cultural life. The world literature on mood disorders is drawn on fully and critically, and the most recent developments from 2024, 2025, and early 2026 are incorporated throughout.

CHAPTER SIXTY-SEVEN: UNDERSTANDING MOOD AND ITS DISORDERS - PHENOMENOLOGY, CLASSIFICATION, AND HISTORY

67.1 What Is Mood and Why Does It Matter?

The word "mood" is one of those terms that everyone uses and almost no one defines with precision. In clinical psychiatry, mood refers to a sustained and pervasive emotional state that colors a person's entire experience of themselves, the world, and the future. This is importantly different from affect, which refers to the more moment-to-moment fluctuations in emotional expression that are directly observable in the clinical encounter. Mood is the weather; affect is the wind at a particular moment. A person in a deep depression may have a consistently depressed mood across days and weeks while showing reduced affective range in clinical observation. A person in a manic episode may report an elevated or expansive mood that is expressed moment to moment in rapid speech, pressured laughter, and extravagant gesture.

Mood is, at one level, a biological state. It reflects the activity of specific neural circuits, the levels of specific neurotransmitters, and the functional state of specific hormonal systems. A

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person's mood can be altered by drugs, by physical illness, by sleep deprivation, by hormonal changes associated with pregnancy, by the light-dark cycle, and by a hundred other biological perturbations. This biological substrate is real and clinically important, and we will examine it in considerable detail in Chapter 68.

But mood is also, at another level, a profoundly personal and social phenomenon. The quality of one's mood is not simply a readout of one's brain chemistry; it reflects how one's life is going, how one's relationships are faring, what one believes about one's own worth and capabilities and future, and how one's cultural context shapes the meaning and expression of emotional states. These social and psychological dimensions of mood are not secondary to the biological ones; they are equally constitutive of what mood actually is. And this means that understanding mood disorders requires engaging with both levels simultaneously, resisting the reductionist temptation to reduce mood to brain chemistry and the equally reductionist temptation to reduce it to psychology or social circumstance.

In normal life, mood is not static. Human beings experience a wide range of emotional states, from profound joy to deep grief, from excited engagement to peaceful calm, and these fluctuations are not disorders but the normal texture of a rich human life. What makes mood disorders is not simply that mood is negative or that it fluctuates, but that it becomes persistently and severely dysregulated in ways that cause significant suffering and functional impairment, that it takes on a quality and an intensity that are disproportionate to any apparent cause, and that it does not respond to the ordinary self-regulatory mechanisms that normally restore emotional equilibrium.

The philosophical question of what distinguishes a mood disorder from an extreme but normal emotional response to circumstances is one of the most contested in all of psychiatry, and it has particular practical importance in Bangladesh, where the question of whether a woman's profound despair in the context of poverty, intimate partner violence, and social isolation constitutes a depressive disorder or a rational response to unbearable circumstances is not merely a diagnostic question but an ethical and political one. We will engage with this question throughout this Part.

67.2 A Brief History of Melancholia and Mania: From Hippocrates to the Twenty-First Century

The history of depression and mania is one of the oldest and most continuous threads in the entire history of medicine. What we today call major depressive disorder was recognized in ancient Greece and Rome as "melancholia," a term derived from the Greek words for black (melas) and bile (chole), reflecting the humoral theory that attributed the condition to an excess of black bile in the body. Hippocrates described melancholia as a state characterized by fear, despondency, sleeplessness, and an aversion to food, and he attributed it to the cooling and thickening effects of black bile on the brain.

The ancient Greek and Roman descriptions of melancholia are remarkably clinically recognizable. The physician Aretaeus of Cappadocia, writing in the first or second century CE, described melancholia with a precision that anticipates modern diagnostic criteria: the

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melancholic person is dull, despairing, sleepless, listless, and sullen, and their mind runs on a single subject. He also described what appears to be a bipolar clinical picture, noting that in some patients, mania alternates with melancholia in the same individual, and that the mania represents an excited transformation of the underlying melancholic constitution. This recognition of the relationship between mania and depression is remarkable for its antiquity.

In Islamic medicine, the great physician Ibn Sina (Avicenna) provided an elaborated account of melancholia in his Canon of Medicine, including descriptions of paranoid features, fear of death, excessive self-criticism, and the withdrawal from social life that characterize severe depression. His treatment recommendations included dietary modification, the regulation of sleep, gentle exercise, social engagement, music, and the prescription of specific herbal remedies. The Unani tradition that flowed from this Islamic scholarship shaped healing practices in the Bengal region for centuries, and its influence on contemporary folk healing practices in Bangladesh is still traceable.

In pre-colonial Bengal, as discussed in Part One, melancholia was understood through the Ayurvedic framework as a vata-dominant disorder characterized by excessive air in the system producing dryness, coldness, and lightness that manifested as fear, anxiety, and depression. Kapha excess, by contrast, was thought to produce a heavier, more lethargic form of depression. The treatments prescribed within this framework included specific dietary regimens favoring warm, oily, and grounding foods; specific herbal preparations including ashwagandha, brahmi, and shatavari; yoga practices; and ritualized social interventions aimed at restoring the person's relationship with the cosmic order. The folk healing traditions of rural Bangladesh retain traces of these Ayurvedic frameworks, hybridized over centuries with Islamic Unani concepts and local cosmological beliefs.

The modern Western history of depression begins with the moral reform movement of the late eighteenth century, which recognized that the despair and melancholia of asylum inmates were not simply signs of irreversible brain damage but could be ameliorated by humane treatment, structured activity, and social engagement. But it is in the nineteenth century that the clinical science of depression begins in earnest.

Wilhelm Griesinger, in his 1845 text, classified depression (which he called "mental depression," including melancholia and hypochondria) as a distinct clinical entity and argued that it was fundamentally a disorder of brain function. Emil Kraepelin, in the series of editions of his Lehrbuch der Psychiatrie published between 1883 and 1915, developed the category of "manic-depressive insanity" as a comprehensive clinical entity encompassing all mood disorders, from mild cyclothymia to severe psychotic depression and mania. Kraepelin's genius was to recognize that mania and depression, apparently opposite in their symptom profiles, represented two poles of the same fundamental disorder of mood regulation, and that the clinical course, characterized by episodic illness with remission between episodes, distinguished this condition from dementia praecox (later schizophrenia), which had a deteriorating course.

Kraepelin's manic-depressive insanity was an inclusive category. It encompassed what we would today call major depressive disorder, bipolar I disorder, bipolar II disorder, cyclothymia, and various related conditions. The subsequent splitting of this broad category into "unipolar

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depression" and "bipolar disorder" as distinct entities was largely the work of Karl Leonhard in the 1950s and Jules Angst and Carlo Perris independently in the 1960s. Their distinction was based on the clinical observation that patients who had experienced only depressive episodes (unipolar) differed from those who had experienced both manic and depressive episodes (bipolar) in their family history, clinical course, and prognosis.

This unipolar-bipolar distinction has remained the fundamental organizing principle of modern mood disorder classification and is embedded in both DSM-5-TR and ICD-11. But it continues to be challenged by researchers and clinicians who argue that the boundary between unipolar and bipolar disorders is not as sharp as the categorical systems imply, and that there is a genuine bipolar spectrum that grades continuously from major depressive disorder at one end through cyclothymia, bipolar II, and bipolar I at the other. This spectrum hypothesis has important clinical and therapeutic implications that we will explore in detail in this Part.

The psychoanalytic movement contributed importantly to the understanding of depression in the early twentieth century. Sigmund Freud's 1917 essay "Mourning and Melancholia" drew a famous distinction between normal grief (mourning) and pathological depression (melancholia), arguing that the key distinguishing feature of melancholia was the internalization of ambivalent feelings toward a lost object, resulting in the turning of aggression against the self and the characteristic self-reproach and self-degradation of depression. While Freud's specific theoretical claims have not survived empirical scrutiny intact, his insight that depression involves a disturbance in the relationship between the self and its attachments, and that the aggressive and self-critical dimensions of depression deserve psychological as well as biological attention, remains clinically valuable.

Karl Abraham's later elaborations of psychoanalytic theory of depression, Melanie Klein's object relations account of depressive position and persecutory anxiety, John Bowlby's attachment theory framework, and Aaron Beck's cognitive reformulation of depression as a disorder of thinking organized around the cognitive triad of negative views of self, world, and future all built on and contested Freud's foundation, generating in the process the rich tradition of psychological understanding of depression that informs contemporary psychotherapy practice.

The psychopharmacological revolution of the 1950s transformed the management of depression. The discovery of imipramine's antidepressant properties by Roland Kuhn in 1957, and the more or less simultaneous discovery of the monoamine oxidase inhibitor iproniazid, established that depression could be effectively treated with medication, lending support to the biological model and inaugurating the era of antidepressant pharmacotherapy that continues today. The subsequent development of the selective serotonin reuptake inhibitors (SSRIs) in the 1980s and 1990s, beginning with fluoxetine (Prozac) in 1988, made antidepressant treatment both safer and more accessible to the broad population, though as we shall see, the question of how SSRIs work and why they do not work for a substantial proportion of patients remains deeply contested.

The past decade has seen a remarkable acceleration in the development of new approaches to treatment-resistant depression, most notably the rediscovery and clinical development of ketamine and esketamine as rapid-acting antidepressants, and the emerging interest in

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psychedelic-assisted therapy. These developments represent both genuine therapeutic advances and important scientific clues about the underlying neurobiology of depression. At the same time, there is a parallel and important recognition that the most powerful determinants of depression at the population level are social and economic rather than biological, and that the enormous global burden of depression will not be adequately addressed by pharmacological innovations alone, however impressive those innovations may be.

67.3 Classification of Mood Disorders in DSM-5-TR and ICD-11: Points of Consensus and Controversy

The classification of mood disorders has undergone significant evolution in recent decades, and the current systems, DSM-5-TR (2022) and ICD-11 (2019), reflect both areas of hard-won consensus and ongoing, sometimes fierce, controversy.

In DSM-5-TR, mood disorders are divided between two separate chapters: Depressive Disorders and Bipolar and Related Disorders. This structural separation, which was new in DSM-5, reflects the historical evidence that unipolar and bipolar disorders differ significantly in family history, neurobiological findings, course, and treatment response. Depressive disorders in DSM-5-TR include major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder due to another medical condition, disruptive mood dysregulation disorder (a new category introduced in DSM-5 for children), and other specified and unspecified depressive disorder. Bipolar and related disorders include bipolar I disorder, bipolar II disorder, cyclothymic disorder, substance/medication-induced bipolar and related disorder, bipolar and related disorder due to another medical condition, and other specified and unspecified bipolar and related disorder.

ICD-11, while sharing the broad outlines of this classification, makes several important differences. Most significantly, ICD-11 retains the organization of depressive and bipolar disorders within a single parent category called "Mood Disorders," reflecting the view that these conditions share important etiological and pathophysiological features. ICD-11 also introduces a more flexible approach to the specification of current episode severity and features, including the specification of mixed features (which can now be applied to both depressive and bipolar episodes), and it incorporates a more explicit acknowledgment of the dimensional nature of mood psychopathology.

Both classification systems face the fundamental challenge that the categories they define are heterogeneous at every level: different patients meeting criteria for major depressive disorder may have very different symptom profiles, different risk factors, different neurobiological signatures, and different treatment responses. This heterogeneity has led some researchers to argue that the current categorical approach to classification is fundamentally misconceived and should be replaced by a dimensional or transdiagnostic framework. The Research Domain Criteria (RDoC) initiative of the US National Institute of Mental Health, launched in 2010, was explicitly developed to address this problem by organizing research around fundamental behavioral and neural systems rather than DSM categories. While RDoC has generated valuable research, it has not yet produced a clinically usable alternative to DSM/ICD categories.

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The debate about the unipolar-bipolar distinction has intensified in recent years, as research has accumulated showing that many patients initially diagnosed with major depressive disorder subsequently experience manic or hypomanic episodes and are therefore reclassified as having bipolar disorder. Studies suggest that the rate of this conversion from unipolar to bipolar diagnosis may be as high as 20 to 30 percent over long-term follow-up. This finding has important clinical implications: patients with "bipolar depression" who are treated with antidepressants alone, without mood stabilizers, may have their illness course worsened through antidepressant-induced switching to mania or rapid cycling. Correctly identifying patients who are on the bipolar spectrum before prescribing antidepressants is therefore a major clinical priority.

The concept of "mixed states," defined by the simultaneous presence of features of both depression and mania or hypomania, represents one of the most clinically important and historically contested areas of mood disorder classification. Mixed states were recognized by Kraepelin as an important clinical presentation, but their definition and significance were largely neglected in the DSM-III and DSM-IV era, which required the full syndrome of both mania and depression to be present simultaneously for a "mixed episode" diagnosis. DSM-5 replaced this restrictive criterion with a "with mixed features" specifier that can be applied to both manic and depressive episodes when features of the opposite pole are present, though not to a full syndrome degree. ICD-11 similarly allows for the specification of mixed features in current episodes. This change is clinically important, as mixed states are associated with higher rates of suicide, more severe impairment, and a different, often more complex, pharmacological treatment response.

A further classification controversy concerns the category of persistent depressive disorder (PDD), or dysthymia, which refers to a chronically depressed mood of lesser severity but greater duration (at least two years) than major depressive disorder. While the distinction between chronic low-grade depression (dysthymia) and episodic severe depression (major depressive disorder) has clinical utility, research has consistently shown that the boundary between them is blurred and that many patients have a combination of chronic dysthymia with superimposed major depressive episodes, a presentation sometimes called "double depression." PDD is particularly important in Bangladesh, where chronic low-grade depression associated with poverty, gender inequality, and chronic adversity may be more prevalent than dramatic episodic major depressive disorder, and may be even less likely to be recognized and treated.

67.4 The Concept of Mood Disorders in Bangladeshi Cultural Frameworks

No account of mood disorders in Bangladesh would be complete without attending carefully to the ways in which the Bangladeshi cultural context shapes the experience, expression, and interpretation of mood disturbance. This is not a matter of adding a cultural supplement to an otherwise complete clinical account; it is a matter of recognizing that the categories of "depression" and "mania" are themselves cultural constructs that do not translate straightforwardly across cultural boundaries.

In the Bangladeshi cultural context, there is no single term that directly corresponds to the biomedical concept of "depression." The closest Bengali-language approximations include

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"bishada" (despondency or sadness), "moner khamata kome jawa" (loss of mental energy or strength), "nirash hoa" (becoming hopeless), and "moner betha" (pain or suffering of the mind). These terms capture aspects of the depressive experience but do not encompass the full clinical syndrome as defined by DSM or ICD criteria. A person who would meet full criteria for major depressive disorder may present their distress primarily in terms of somatic complaints (headache, chest tightness, weakness, fatigue, palpitations), spiritual concerns (divine punishment, weakened iman or faith), or family and relational disruptions, rather than in terms of mood per se.

This somatic expression of psychological distress is one of the most consistent and clinically important features of depression in Bangladesh and across South Asia. Studies of clinical populations in Bangladesh consistently show that the majority of patients with depressive disorders present initially with somatic complaints rather than psychological ones. They may describe themselves as feeling "ashakto" (weak), "amasha" (anaemic or thin), "shorirer khamata nai" (having no bodily strength), or "motha lag" (feeling dull and heavy), while not explicitly describing sadness or low mood. This somatization of depression is not a misrepresentation or a cultural artifact that should be looked through to reach the "real" psychological symptoms; it reflects a genuine mode of experiencing and communicating distress that is shaped by cultural frameworks about the relationship between mind and body, about what kinds of suffering are legitimate and communicable, and about how suffering is most likely to be heard and responded to.

The concept of "dil" (heart, in the Arabic-derived usage that has become central to Bangladeshi emotional vocabulary) is central to the cultural understanding of emotional states in Bangladesh. "Dil bhara hoa" (the heart being full or burdened), "dil uthena" (the heart not feeling like doing things), "dil kharap" (the heart being bad or troubled) are common ways of expressing the kind of disengagement, anhedonia, and emotional heaviness that characterize depression. These heart-focused idioms reflect the long tradition, in both Islamic and Ayurvedic frameworks, of understanding the heart as the seat of emotions and moral life. The clinical significance of these idioms is that they may serve as entry points for establishing the presence of depressive symptoms in patients who do not initially present in those terms.

The concept of "tension" ("tension" has been adopted as an Anglicism into Bangladeshi everyday speech and has become a powerful local idiom of distress) refers to a state of psychological stress, worry, and agitation that is extremely commonly reported by Bangladeshis of all ages and social backgrounds. "Tension" in this usage encompasses anxiety, worry, rumination, and sometimes what would clinically be identified as a mixed state of depression and anxiety. The near-universal use of "tension" as a primary idiom of distress means that when patients say they have "tension," the clinician cannot assume that this refers solely to anxiety; it may also encompass depressive symptoms, somatic complaints, and social difficulties, and careful assessment is required to unpack what is being described.

The role of spiritual and religious frameworks in understanding mood disturbance in Bangladesh deserves extended attention. In the Islamic framework that shapes the worldview of the great majority of Bangladeshis, persistent sadness and despair that cannot be explained by obvious life circumstances may be interpreted as a weakening of iman (faith), as divine testing,

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as the result of neglected religious obligations, as the work of jinn, or as the consequence of consuming haram food or engaging in haram activities. These interpretations are not simply obstacles to psychiatric care; they reflect a genuine attempt to make meaning of suffering within a coherent theological framework, and they are often experienced by the suffering person as deeply important. The psychiatrist who dismisses these interpretations, or who implicitly communicates contempt for them, will lose the trust of the patient and the family, and will fail to engage meaningfully with the most important dimensions of the patient's experience.

Hindu frameworks, which are relevant for a significant minority of the Bangladeshi population including much of the indigenous community in the Chittagong Hill Tracts, attribute mood disturbance to different sets of causes including karmic consequences, disruptions in the relationship between the self and the cosmic order (dharma), imbalances in the three doshas, and the influence of malevolent spirits or deities. The healing practices associated with these frameworks include specific rituals, pilgrimage, puja (worship), dietary modifications, and herbal treatments, as well as consultation with locally recognized healers such as kabiraj and astrologers who may advise on the spiritual dimensions of the illness.

Buddhist frameworks, which are particularly relevant in the Chakma, Marma, Tripura, and other indigenous communities of the Chittagong Hill Tracts, understand suffering (dukkha) as an inevitable feature of conditioned existence, arising from craving and attachment, and amenable to relief through the cultivation of mindfulness, compassion, and wisdom. This framework offers a very different account of depression from either the biomedical model or the Islamic framework: it does not pathologize suffering, does not attribute it to supernatural intervention, and does not primarily seek to eliminate it through pharmacological or other technical means, but rather to transform the relationship to it through meditative practice and philosophical insight. The growing body of evidence for the effectiveness of mindfulness-based interventions in preventing depressive relapse, to be discussed in Chapter 73, suggests that this Buddhist insight about the role of attentional and attitudinal factors in suffering may have important clinical as well as philosophical validity.

CHAPTER SIXTY-EIGHT: NEUROBIOLOGY OF MOOD DISORDERS - BRAIN CIRCUITS, NEUROTRANSMITTERS, AND EMERGING SCIENCE

68.1 Overview: The Complexity of Mood Neuroscience

The neuroscience of mood disorders is one of the most intensively studied areas in all of biomedical research, and it is one in which our understanding has advanced dramatically over the past three decades while simultaneously revealing the depth of our remaining ignorance. We know far more than we did in 1990 about the neural circuits involved in mood regulation, about the genetic architecture of mood disorders, about the role of inflammatory processes, about the effects of stress on brain structure and function, and about the mechanisms of action of antidepressant and mood-stabilizing treatments. And yet we still cannot reliably predict who will develop a mood disorder, still cannot use any biological marker to diagnose one, still cannot

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reliably predict who will respond to a particular treatment, and still cannot fully explain why the treatments that work do so.

This chapter aims to provide a state-of-the-art account of the neurobiology of mood disorders that is both scientifically accurate and clinically grounded. We draw on the most current literature, including major reviews and meta-analyses from 2024 and 2025, and we try throughout to distinguish between what is established, what is promising but not yet established, and what is contested or speculative. The Bangladesh clinician reading this chapter should come away not only with a body of neurobiological knowledge but with a critical framework for evaluating new claims about the neuroscience of depression and bipolar disorder.

68.2 The Monoamine Hypothesis: The Foundation and Its Fractures

The monoamine hypothesis of depression, which proposed that depression was caused by a functional deficiency of serotonin, norepinephrine, or dopamine at synaptic clefts in the brain, was the dominant neurobiological framework for depression from the 1960s through the early 2000s. It arose from two clinical observations: that reserpine, a drug that depletes monoamine stores, could precipitate depression in some patients; and that the first effective antidepressants, the tricyclics and MAOIs, both increased monoamine availability at synapses (the tricyclics by blocking reuptake, the MAOIs by preventing monoamine breakdown).

The monoamine hypothesis was enormously productive in driving the development of new antidepressants. The logical extension of "more monoamines is better" led to the development of selective serotonin reuptake inhibitors (SSRIs), which were safer than tricyclics and MAOIs and became the most prescribed class of drugs in the world. But the hypothesis had fundamental problems from the start, and by the 2010s, evidence had accumulated that it was at best incomplete and at worst seriously misleading.

The most damaging evidence against a simple monoamine deficiency theory came from several sources. First, acute monoamine depletion (reducing serotonin or norepinephrine availability using dietary or pharmacological methods) does not reliably induce depressive symptoms in healthy individuals who have no history of depression, though it does so more readily in people who have had previous depressive episodes or have strong family histories of depression. This suggests that low monoamine levels are not, by themselves, sufficient to cause depression. Second, antidepressants produce their clinical effects after weeks of regular administration, even though their monoamine-augmenting effects occur within hours of the first dose. This temporal discrepancy strongly suggests that the therapeutic effect is mediated through downstream adaptive changes rather than simply through acute increases in monoamine availability. Third, several drugs that increase monoamine availability do not have antidepressant effects, and conversely, some newer antidepressants work through different mechanisms.

The recognition of these problems has driven an intensive search for the "real" mechanism of antidepressant action and the "real" neurobiological substrate of depression. This search has produced several important, partially competing, and mutually complementary hypotheses.

68.3 The Neuroplasticity Hypothesis and BDNF

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One of the most important contemporary neurobiological hypotheses about depression is the neuroplasticity hypothesis, which proposes that depression is associated with reduced structural and functional plasticity in specific brain regions, particularly the hippocampus and prefrontal cortex, and that effective antidepressant treatments work by restoring neuroplasticity rather than simply by correcting monoamine deficiency.

The evidence for this hypothesis is compelling. Chronic stress, both in animal models and in human imaging studies, is associated with reduction in hippocampal volume, decreased dendritic arborization and synaptic density in the prefrontal cortex, and impaired neurogenesis (the production of new neurons) in the hippocampal dentate gyrus. Depressed patients show reduced hippocampal volumes in neuroimaging studies, and this reduction is correlated with the duration and severity of depression. Antidepressant treatments of multiple classes, including SSRIs, tricyclics, electroconvulsive therapy (ECT), and ketamine, all stimulate neurogenesis and restore synaptic density in animal models, and the time course of these effects correlates better with the time course of antidepressant action than does the more immediate monoamine augmenting effect.

The neuroplasticity hypothesis implicates Brain-Derived Neurotrophic Factor (BDNF) as a critical molecular mediator. BDNF is a growth factor essential for the survival, differentiation, and synaptic plasticity of neurons. Multiple studies have found reduced serum and brain levels of BDNF in depressed patients, with levels normalizing after successful antidepressant treatment. The BDNF Val66Met polymorphism, a common genetic variant that reduces the activity-dependent secretion of BDNF, has been associated in some but not all studies with increased vulnerability to depression. Antidepressants of multiple classes increase BDNF expression in the hippocampus and prefrontal cortex, and this effect appears to be critical for their therapeutic action.

The neuroplasticity hypothesis has important therapeutic implications. It suggests that any intervention that promotes neuroplasticity, whether pharmacological, psychotherapeutic, or lifestyle-based, may have antidepressant potential. Exercise is a particularly interesting case in point: robust evidence from meta-analyses of controlled trials shows that regular aerobic exercise has significant antidepressant effects comparable in magnitude to those of antidepressant medications in mild to moderate depression. A 2025 systematic review and meta-analysis of meta-analyses of exercise for depression, published in PLOS ONE by Budde and colleagues, confirmed these effects and described the neurobiological mechanisms including increased BDNF expression, normalized HPA axis function, and enhanced neurogenesis. The implications for Bangladesh are significant: exercise is an intervention that is universally accessible, has no cost, has no pharmaceutical side effects, and can be integrated into culturally appropriate activities. However, its prescription requires attention to cultural acceptability, gender norms around physical activity (women's access to appropriate exercise settings is limited in many Bangladeshi contexts), and practical barriers.

68.4 The HPA Axis and the Stress-Depression Interface

The hypothalamic-pituitary-adrenal (HPA) axis is the primary neuroendocrine system through which the brain and body respond to stress. When a stressor is perceived, the hypothalamus

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releases corticotropin-releasing hormone (CRH), which stimulates the pituitary gland to release adrenocorticotropic hormone (ACTH), which in turn stimulates the adrenal cortex to release cortisol. Cortisol then acts throughout the body and brain to mobilize energy resources, suppress immune function, and prepare the organism for fight or flight. Normally, the cortisol response is self-limiting: cortisol acts on glucocorticoid receptors in the hippocampus and prefrontal cortex to shut off the HPA axis through negative feedback.

In chronic stress and in depression, this regulatory system becomes dysregulated. HPA axis hyperactivity, manifest as elevated basal cortisol levels, blunted diurnal cortisol variation, and impaired negative feedback (shown by the dexamethasone suppression test), is one of the most replicated biological findings in depression. Approximately 40 to 50 percent of patients with major depressive disorder show measurable HPA axis dysregulation, with even higher rates in melancholic and psychotic subtypes of depression.

The consequences of sustained HPA axis hyperactivity for the brain are severe. Chronically elevated cortisol damages hippocampal neurons (because the hippocampus has a very high density of glucocorticoid receptors and is particularly sensitive to glucocorticoid toxicity), reduces hippocampal neurogenesis, shrinks the volume of the prefrontal cortex, and impairs the functioning of both the hippocampus and the prefrontal cortex in their regulatory roles over the HPA axis itself and over emotional processing. This creates a vicious cycle: stress produces HPA dysregulation, HPA dysregulation damages the brain regions responsible for regulating the HPA axis, the damaged regulation allows sustained HPA hyperactivity, which causes further neural damage, which further impairs the recovery of both the HPA system and of mood.

This stress-HPA-neuroplasticity cascade has particular relevance in Bangladesh, where chronic stress associated with poverty, intimate partner violence, food insecurity, climate-related adversity, and the long-term sequelae of collective trauma is extremely prevalent. The allostatic load concept, as discussed in Chapter 5, helps to explain why populations exposed to chronic cumulative adversity show elevated rates of depression and why the effects of adversity on mental health are not simply additive but may be multiplicative.

68.5 The Inflammatory Hypothesis of Depression

One of the most scientifically exciting and clinically promising developments in depression research in the past decade has been the emergence of the inflammatory hypothesis: the proposal that inflammatory processes play an important causal role in at least a substantial subtype of major depressive disorder.

The evidence for this hypothesis comes from multiple directions. Epidemiological studies consistently show elevated levels of inflammatory markers, particularly C-reactive protein (CRP), interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-alpha), and other pro-inflammatory cytokines, in depressed patients compared to non-depressed controls. This elevation is found both in peripheral blood and, in post-mortem and neuroimaging studies, in the brain itself. Chronic inflammatory conditions such as rheumatoid arthritis, psoriasis, inflammatory bowel disease, and type 2 diabetes are all associated with elevated rates of depression. Treatment with pro-inflammatory cytokines (such as interferon-alpha, used in the

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treatment of hepatitis C) reliably induces depressive symptoms in a substantial proportion of patients. Conversely, anti-inflammatory interventions including non-steroidal anti-inflammatory drugs (NSAIDs), omega-3 fatty acids, and biologic agents targeting specific inflammatory pathways have shown antidepressant effects in trials of depressed patients with elevated inflammatory markers.

The mechanisms through which inflammation might cause depression are multiple and intersecting. Pro-inflammatory cytokines can cross the blood-brain barrier and directly affect neural circuits. They can reduce the availability of tryptophan (the precursor to serotonin) by diverting it into the kynurenine pathway, which produces neurotoxic metabolites. They can impair the negative feedback regulation of the HPA axis, contributing to the HPA hyperactivity described above. They can reduce BDNF levels and impair neuroplasticity. And they can directly alter the function of brain regions involved in mood regulation including the amygdala, hippocampus, and prefrontal cortex.

A particularly important 2026 paper in the International Journal of Molecular Sciences, reviewing the neurobiological mechanisms of tryptophan-kynurenine pathway dysregulation in depression, highlighted how diet, gut microbiome composition, and inflammatory states interact to shape the availability of serotonin precursors and the production of neurotoxic versus neuroprotective kynurenine metabolites. This gut-brain axis research, while still in its early stages, opens important new avenues for understanding the relationship between nutrition, inflammation, and mood regulation, and has particular relevance in Bangladesh given the high rates of nutritional deficiency (particularly iron, vitamin D, and omega-3 fatty acids) and gastrointestinal morbidity in the population.

The inflammatory hypothesis does not apply to all depressed patients. Approximately 30 to 40 percent of patients with major depressive disorder show elevated inflammatory markers, and the remainder do not. This "inflammatory subtype" of depression may be specifically associated with a distinct symptom profile (characterized by elevated fatigue, psychomotor retardation, reduced interest, and somatic symptoms rather than sadness) and with a different response to treatment (relative resistance to SSRIs but potential sensitivity to anti-inflammatory agents). This subtype represents an important precision psychiatry opportunity: identifying patients with elevated inflammation and targeting it specifically may improve treatment outcomes in a clinically significant subgroup. A 2025 meta-analysis confirmed that adjunctive anti-inflammatory treatment with omega-3 fatty acids significantly reduces depressive symptoms in patients with elevated inflammatory markers.

68.6 Neuroimaging of Depression: What We Can and Cannot See

Structural and functional neuroimaging studies have been applied extensively to depression over the past three decades and have generated a large and complex literature. For the clinician, two key points are most important.

First, the main neuroimaging findings in depression, taken together, point to a consistent picture of disturbed function in a network of interconnected brain regions involved in emotional processing and mood regulation. This network, sometimes called the "affective network" or the

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"default mode network in its mood-relevant aspects," includes the prefrontal cortex (particularly the medial prefrontal cortex and the anterior cingulate cortex), the amygdala, the hippocampus, the thalamus, the striatum (including the nucleus accumbens), and the insular cortex. In depression, these regions show characteristic patterns of structural change (reduced volume of the prefrontal cortex and hippocampus), altered patterns of functional connectivity (abnormal connectivity between the default mode network and the central executive network, reflecting the disturbed relationship between rumination and executive control that is clinically manifest as depressive rumination and impaired concentration), and altered activation in response to emotional stimuli (typically hyperactivation of the amygdala to negative stimuli and hypoactivation of the striatum to positive stimuli, reflecting the negative attentional bias and anhedonia of depression).

Second, while these neuroimaging findings are robust at the group level, they are not sufficiently specific or sensitive at the individual level to be used as diagnostic tools. There is no depression-specific neuroimaging signature that can reliably diagnose depression in an individual patient. This is partly a consequence of the clinical heterogeneity of depression, partly a technical limitation, and partly a reflection of the fact that the neural changes associated with depression overlap substantially with those associated with other psychiatric conditions.

The 2024 and 2025 literature has moved in two important directions. One direction is toward the development of machine learning approaches to analyze complex patterns of neuroimaging data that might allow more reliable individual-level classification, at least in research settings. A 2024 paper reported the application of machine learning to functional connectivity data to identify individuals at high risk for depressive episodes before those episodes occurred, with a sensitivity and specificity that were substantially above chance. The second direction is toward using neuroimaging to identify which patients will respond to specific treatments, an application of the precision psychiatry vision to actual clinical decision-making. While still in early stages, this research direction is promising and may in time provide tools that are relevant even in lower-resource settings.

For Bangladesh, structural MRI and functional MRI are available at only a handful of centers nationally, primarily BSMMU and some large private hospitals in Dhaka. The practical clinical implications of neuroimaging research for the great majority of Bangladeshi clinicians are therefore indirect: the research informs the theoretical understanding of what depression is, supports the biological legitimacy of depression as a genuine medical condition (which has anti-stigma importance), and generates hypotheses about risk factors and treatment mechanisms. The application of neuroimaging as a clinical tool remains, at present, outside the reach of most Bangladeshi mental health practice.

68.7 Genetics of Mood Disorders: The Polygenic Architecture

The heritability of major depressive disorder is approximately 37 to 40 percent based on twin studies, and the heritability of bipolar disorder is substantially higher at approximately 65 to 80 percent. These figures indicate that genetic factors play an important but not overwhelming role in the causation of major depressive disorder, and a more substantial role in bipolar disorder.

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For decades, the search for specific "depression genes" proved frustratingly unrewarding. Early candidate gene studies focused on genes in the serotonergic, noradrenergic, and dopaminergic systems and produced a series of apparently significant findings that largely failed to replicate. The serotonin transporter gene (5-HTT or SLC6A4), and its polymorphism (5-HTTLPR), was among the most extensively studied: a 2003 Science paper by Caspi and colleagues reported that the short allele of this polymorphism moderated the effect of stressful life events on depression, such that individuals with the short allele were more likely to develop depression in response to adversity. This gene-environment interaction finding was enormously influential but has not replicated consistently in large subsequent studies.

The advent of genome-wide association studies (GWAS) in the 2010s transformed this picture. Large GWAS studies with samples of tens of thousands of depressed patients and controls identified many common genetic variants (single nucleotide polymorphisms, or SNPs) associated with depression, each of individually very small effect. The most recent large-scale GWAS studies, involving hundreds of thousands of participants, have identified over 100 genetic loci associated with depression risk. The picture that emerges is one of a highly polygenic architecture: depression is influenced by hundreds or thousands of common variants, each contributing a tiny fraction of the total genetic risk, with no single gene playing a dominant etiological role. This polygenic architecture is summarized in polygenic risk scores (PRS), which aggregate the effects of many variants into a single measure of genetic liability. PRS for depression have shown promise in predicting depression risk but explain only a modest fraction of the variance in depression at the individual level.

For bipolar disorder, the GWAS literature has produced even more striking findings. A landmark 2025 paper in Nature (by O'Connell and colleagues) reported a large international GWAS of bipolar disorder that identified many genetic loci and provided important insights into the biological pathways involved. The study highlighted the role of calcium channel genes (particularly CACNA1C), voltage-gated potassium channel genes, and genes involved in synaptic regulation and neural development as important in bipolar disorder risk. Importantly, the study found substantial genetic overlap between bipolar disorder and both schizophrenia and major depressive disorder, confirming the trans-diagnostic genetic architecture that has been suspected since the earliest family studies.

The genetic research on mood disorders has several important implications for clinical practice. It supports the validity of mood disorders as genuine medical conditions with biological substrates, countering stigmatizing accounts that attribute depression to weakness or laziness. It helps to explain the familial aggregation of mood disorders and supports the clinical practice of taking a careful family history of psychiatric illness as part of mood disorder assessment. It suggests that the children of parents with mood disorders are at elevated risk and may benefit from targeted prevention strategies. And it points toward the biological pathways most implicated in mood disorders, providing targets for the development of new treatments.

However, the genetic research also has important limitations. The samples in most large GWAS studies have been predominantly of European ancestry, with limited representation of South Asian, African, or East Asian populations. The applicability of European-derived polygenic risk scores to Bangladeshi patients has not been systematically evaluated, and it may be limited. This

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is a significant gap in knowledge with direct clinical relevance: if genetic risk factors for depression and bipolar disorder differ between European and South Asian populations (as is likely, given population-genetic differences in allele frequencies), then findings from European GWAS studies may not translate reliably to the Bangladeshi context.

68.8 The Neurobiology of Bipolar Disorder: Circuits, Rhythms, and Circadian Biology

Bipolar disorder shares many neurobiological features with major depressive disorder, but it also has distinctive features that reflect the unique character of this condition, particularly its defining feature of recurrent oscillation between mood states.

Neuroimaging studies of bipolar disorder have found alterations in the prefrontal cortex (reduced gray matter volume, reduced functional activation during cognitive tasks), amygdala (increased volume and hyperactivation to emotional stimuli in mania, hypoactivation in depression), hippocampus (reduced volume, particularly after multiple episodes), and the functional connectivity between these regions. The pattern of neural abnormality in bipolar disorder resembles in some ways that seen in unipolar depression but is distinctive in others, particularly in the involvement of the amygdala and its connections with the prefrontal cortex in the context of emotional dysregulation.

One particularly important dimension of bipolar disorder neurobiology is the role of circadian rhythm dysregulation. Bipolar disorder is fundamentally a disorder of biological rhythms: the sleep-wake cycle is profoundly disturbed in both manic and depressive episodes, and sleep disruption often precedes mood episode onset and may serve as a proximal trigger. The circadian rhythm of cortisol secretion, body temperature, and melatonin are all disrupted in bipolar disorder. The core biological clock machinery, including the CLOCK and BMAL1 genes that encode the molecular pacemakers of circadian rhythms, has been implicated in bipolar disorder through both genetic association studies and animal models.

These circadian rhythm abnormalities have important therapeutic implications. Interventions that stabilize circadian rhythms, including regular sleep schedules, light therapy, and social rhythm therapy (a psychosocial treatment specifically designed to regularize the daily rhythms of patients with bipolar disorder), have shown efficacy in bipolar disorder treatment and prevention. The circadian biology framework also provides a mechanistic explanation for several well-established clinical observations: that sleep deprivation can trigger manic episodes, that manic episodes typically show early morning awakening with reduced sleep need, that seasonal patterns of episode onset are common in bipolar disorder, and that lithium (the prototypical mood stabilizer) has measurable effects on circadian rhythm regulation.

The neurobiological research on bipolar disorder increasingly emphasizes the importance of mitochondrial function and energy metabolism. Several lines of evidence, including post-mortem brain studies, neuroimaging with magnetic resonance spectroscopy, and genetic findings, point to mitochondrial dysfunction as an important contributor to bipolar disorder pathophysiology. This research direction is partly inspired by the observation that several effective mood-stabilizing treatments (including lithium and valproate) have measurable effects on mitochondrial function. A 2025 Lancet paper reviewing bipolar disorder also noted a possible

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role for infectious processes in the etiology of a subgroup of patients, citing epidemiological evidence linking prenatal exposure to certain infections with elevated risk of bipolar disorder.

CHAPTER SIXTY-NINE: DEPRESSIVE DISORDERS - CLINICAL FEATURES, SUBTYPES, AND ASSESSMENT

69.1 Major Depressive Disorder: The Core Clinical Picture

Major depressive disorder (MDD) is defined in both DSM-5-TR and ICD-11 by a constellation of symptoms that together constitute a major depressive episode, occurring in the absence of a history of manic or hypomanic episodes that would indicate a bipolar disorder diagnosis. The central feature is a sustained and pervasive low mood or loss of interest and pleasure (anhedonia), present for most of the day, nearly every day, for at least two weeks. This core disturbance of mood or pleasure is accompanied by a characteristic cluster of associated symptoms from a list that includes changes in appetite or weight, sleep disturbance, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive guilt, difficulty concentrating or making decisions, and recurrent thoughts of death or suicidal ideation.

For the clinician in Bangladesh, the most important first principle of depression assessment is that the condition often does not present as the textbook describes. The patient who comes to a psychiatry clinic explicitly complaining of low mood, anhedonia, worthlessness, and suicidal thoughts is the exception rather than the rule. More commonly, the depressed patient in Bangladesh presents to a general practitioner, a physician at an upazila health complex, or even a pharmacist with a collection of somatic complaints: persistent headache, fatigue, palpitations, chest tightness, loss of appetite, weakness, "dizziness," or multiple other symptoms that have resisted standard medical investigation and treatment. The challenge is to recognize that these somatic presentations may be the surface manifestation of an underlying depressive disorder and to systematically inquire about the mood and neurovegetative symptoms that would confirm this diagnosis.

The symptom profile of depression in Bangladeshi patients tends to have several characteristic features that reflect both the cultural context and the predominance of certain risk factors. Somatic complaints are prominent and often constitute the presenting complaint. Cognitive features, particularly excessive guilt and worthlessness, may be expressed in religious rather than purely psychological terms, for example as a sense of having sinned, of being spiritually polluted, or of being justly punished by God. Anhedonia may be expressed not as "I feel no pleasure" but as "I have lost interest in everything, even my prayers," which in the Bangladeshi context is a particularly significant statement given the centrality of religious practice to most people's daily life. Sleep disturbance is very common, with both insomnia (typically early morning awakening) and hypersomnia (particularly in atypical depression) occurring. Psychomotor retardation, manifest as slowed movement, slowed speech, and increased latency in responding to questions, is an important and often clinically obvious feature of moderate to severe depression.

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Suicidal ideation in depression requires systematic and sensitive assessment in every clinical encounter with a depressed patient. In the Bangladeshi context, direct questions about suicidal thoughts may be met with denial or evasion because of the profound religious prohibition on suicide in Islam (in which suicide is regarded as haram, forbidden, and as one of the major sins). This does not mean that suicidal ideation is absent, but it may mean that the patient expresses it differently, for example through passive death wishes ("I wish Allah would take me"), through wishes that others might come to harm that would implicate them, through expressions of hopelessness and the belief that life has no meaning, or through descriptions of passive self-harm behavior. A careful and non-judgmental inquiry that acknowledges the patient's religious framework while systematically exploring suicidal ideation is essential.

69.2 Subtypes and Specifiers of Major Depressive Disorder

Both DSM-5-TR and ICD-11 recognize important subtypes or specifiers of MDD that have clinical significance for treatment selection and prognosis. Understanding these subtypes is important for the practicing clinician because they point toward specific treatment considerations.

Melancholic depression is characterized by pervasive anhedonia (a near-complete inability to experience pleasure), early morning awakening, psychomotor disturbance (either retardation or agitation), weight loss, and a mood quality that is distinct from ordinary sadness, often described as a qualitatively different, heavier, more pervasive state. This subtype is thought to reflect a more "biological" form of depression with more pronounced HPA axis dysregulation, and it tends to respond better to tricyclic antidepressants and ECT than to SSRIs alone. In Bangladesh, melancholic depression is an important presentation to recognize because it requires more aggressive pharmacological treatment and because the patient's profound psychomotor retardation and withdrawal may prevent them from effectively participating in any therapeutic process.

Atypical depression is characterized by mood reactivity (the mood brightens temporarily in response to positive events), increased appetite or weight gain, hypersomnia, a heavy leaden feeling in the limbs, and a pattern of interpersonal rejection sensitivity that leads to significant social and occupational impairment. Atypical depression tends to respond better to MAOIs than to tricyclics, though SSRIs are now the typical first-line treatment. In Bangladesh, the increased appetite and weight gain of atypical depression may conflict with culturally specific concerns about thinness and with the practical reality of food insecurity in many households. The recognition of mood reactivity as a feature of atypical depression is important, as it may lead clinicians and families to dismiss the diagnosis by arguing that the patient "can't be really depressed if they can enjoy things."

Psychotic depression refers to major depressive disorder accompanied by delusions or hallucinations, which are typically mood-congruent (consistent with the depressive themes of worthlessness, guilt, poverty, nihilism, or somatic catastrophe). Psychotic depression is a clinical emergency, as it is associated with very high suicide risk, severe functional impairment, and a clinical course that typically requires hospitalization and treatment with a combination of an antidepressant and an antipsychotic, or with ECT. In Bangladesh, psychotic depression may

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be particularly difficult to recognize because its psychotic features may be interpreted within cultural frameworks (spirit possession, divine punishment) in ways that lead to consultation with traditional healers rather than psychiatrists, and because its severity may be more compatible with hospital admission than most other presentations of depression.

Seasonal affective disorder (SAD), characterized by recurring major depressive episodes with a seasonal pattern (typically onset in autumn or winter and remission in spring), is well established in high-latitude countries where seasonal variation in daylight is marked. In Bangladesh, with its tropical climate, the relevance of SAD is less clear. However, there is emerging evidence that seasonal patterns in mood disorders may occur even in subtropical regions, possibly related to humidity and heat rather than light, and the monsoon season may be associated with increased depressive episodes in some patients. Light therapy, which is the first-line treatment for seasonal affective disorder in high-latitude countries, has not been well studied in tropical settings, but the evidence for its antidepressant efficacy is strong enough to warrant consideration in appropriate patients.

Peripartum depression, which includes depressive episodes with onset during pregnancy or within four weeks of delivery, is among the most important and most neglected forms of depression in Bangladesh. We will address this in detail in Chapter 74.

Treatment-resistant depression (TRD) is not a formal diagnostic specifier in DSM-5-TR or ICD-11 but has enormous clinical and research importance. Broadly defined as depression that has not responded to at least two adequate antidepressant trials (of different classes, at adequate doses, for adequate duration), TRD affects approximately 30 to 40 percent of patients with MDD in most clinical series. In Bangladesh, the assessment of whether a patient truly has TRD is complicated by the frequent inadequacy of prior treatment trials (inadequate doses, inadequate duration, poor adherence), the high rate of unrecognized bipolar depression being treated with antidepressants alone, and the prevalence of comorbid conditions (substance use, anxiety disorders, medical conditions) that may render depression treatment-resistant.

69.3 Persistent Depressive Disorder

Persistent depressive disorder (PDD), also known as dysthymia, is defined by a chronically depressed mood that persists for at least two years, without symptom-free periods of more than two months, and with at least two of a list of associated symptoms including poor appetite or overeating, insomnia or hypersomnia, low energy, poor self-esteem, poor concentration, and hopelessness. PDD can occur with or without superimposed major depressive episodes (the latter presentation is termed "double depression").

PDD is particularly important in the Bangladesh context because the chronic, low-level character of its depressive features makes it very likely to be normalized, both by the patient and by clinicians, as simply how the person "is" rather than as a treatable condition. Many patients with PDD have experienced their depressive symptoms for so long that they have come to regard them as permanent features of their personality rather than as symptoms of a disorder. This "characterological" perception of PDD has historically made it more difficult to treat than episodic MDD, though evidence-based treatments are available and effective. PDD, like MDD,

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is associated with significant functional impairment, increased risk of major depressive episodes, and elevated suicide risk over the long term.

In Bangladesh, the prevalence of PDD is not well characterized because the National Mental Health Survey of 2019, like most community surveys, is better calibrated to identify episodic major depression than chronic low-level depressive states. Clinical observation suggests that PDD is common, particularly among women experiencing chronic adversity, and that it is almost universally undetected and untreated in primary care settings.

69.4 Screening and Assessment Tools for Depression in Bangladesh

Systematic screening for depression in primary care settings is a recommended public health strategy for increasing case detection, and several screening instruments have been validated in Bangladeshi populations.

The Patient Health Questionnaire-9 (PHQ-9) is a nine-item self-report questionnaire based directly on the DSM criteria for major depressive disorder. Each item asks about the frequency of a specific symptom over the past two weeks (rated 0 to 3: not at all, several days, more than half the days, nearly every day). A Bengali-language version of the PHQ-9 has been developed and validated in Bangladesh and is now the most widely used screening and monitoring tool for depression in Bangladeshi research and clinical settings. A score of 5 to 9 is classified as mild depression, 10 to 14 as moderate, 15 to 19 as moderately severe, and 20 to 27 as severe. A score of 10 or above on the PHQ-9 is the commonly used threshold for a positive screen, but this should be followed by a clinical interview to confirm the diagnosis.

The Hamilton Depression Rating Scale (HDRS or HAM-D), developed by Max Hamilton in 1960, is the most widely used clinician-administered rating scale for depression severity. The 17-item version is used in most research contexts, with additional items available in longer versions. The HAM-D is not a diagnostic instrument but a severity measure, and it is particularly useful for monitoring treatment response. Its use in Bangladesh is primarily in research contexts. The Montgomery-Asberg Depression Rating Scale (MADRS) is a 10-item clinician-administered scale that is particularly sensitive to change during treatment and is preferred in some research and clinical settings. The Beck Depression Inventory (BDI-II) is a widely used self-report measure of depression severity, and a Bengali-language version has been validated.

For use in primary care in Bangladesh, particularly in the mhGAP context, the PHQ-9 or the shorter PHQ-2 (which asks only the two core screening questions about low mood and anhedonia) provide practical and valid tools for identifying likely depressive disorders in clinical practice. The PHQ-2, while less comprehensive, is particularly useful as a first-pass screen when consultation time is limited, with a positive result on either item indicating the need for a full PHQ-9 and clinical assessment.

69.5 Differential Diagnosis of Depressive Disorders

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The differential diagnosis of depression is crucial in clinical practice, as several conditions can mimic or complicate a depressive presentation, and misdiagnosis has serious clinical consequences.

Medical conditions that can produce depressive syndromes include hypothyroidism (among the most important, as it is common, especially in women, and is easily missed if thyroid function tests are not routinely performed), hyperthyroidism, vitamin B12 deficiency, folate deficiency, vitamin D deficiency (which is widespread in Bangladesh, particularly among women in purdah), iron-deficiency anemia, diabetes mellitus, hepatitis B and C (both highly prevalent in Bangladesh), HIV/AIDS, cardiac disease, and various neurological conditions including stroke, Parkinson's disease, and epilepsy. In any patient presenting with depressive symptoms, a physical examination and appropriate laboratory investigations are essential to exclude these conditions before attributing the presentation to a primary depressive disorder.

Bipolar depression is perhaps the most important diagnostic differential for major depressive disorder. A patient presenting with a depressive episode may be experiencing a bipolar depressive episode, and the treatment implications are very different. The clinical features that should raise the suspicion of bipolar disorder in a patient presenting with depression include earlier age of onset (particularly adolescence or early adulthood), more episodic course with shorter episodes, hypersomnia and psychomotor retardation predominating over insomnia and agitation, first-degree relatives with bipolar disorder, personal history of manic or hypomanic symptoms however mild, history of activation or switching to elevated mood on antidepressant treatment, and seasonal pattern. The Hypomania Checklist-32 (HCL-32) or the Mood Disorder Questionnaire (MDQ) can assist in screening for hypomanic features in patients presenting with depression.

Anxiety disorders, particularly generalized anxiety disorder (GAD) and panic disorder, frequently co-occur with and can mimic depression. The distinction between primary anxiety and primary depression with anxious features is clinically important but not always straightforward, as the symptom profiles overlap substantially. In Bangladesh, the somatic expression of both anxiety and depression means that somatic symptom presentations often conceal a mixed anxiety-depression picture that requires careful psychological assessment to disentangle.

Grief and bereavement need to be carefully distinguished from major depressive disorder. Normal grief typically involves waves of sadness, longing, and yearning for the lost person, often accompanied by somatic symptoms, sleep disturbance, and functional impairment. These features can be clinically indistinguishable from depression, particularly in the acute phase. The ICD-11 introduces prolonged grief disorder as a new category, defined by persistent and impairing grief extending beyond six months after bereavement, which is distinguished from normal grief by its intensity, its failure to adapt, and its significant functional impact. This distinction is clinically important because it supports the provision of specific therapeutic interventions for pathological grief while not medicalizing the normal grieving process.

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CHAPTER SEVENTY: EPIDEMIOLOGY OF DEPRESSION IN BANGLADESH - PREVALENCE, RISK FACTORS, AND SOCIAL DETERMINANTS

70.1 The Burden of Depression in Bangladesh: Epidemiological Foundations

The global burden of depressive disorders is enormous. According to the Global Burden of Disease 2019 estimates, major depressive disorder and dysthymia together accounted for approximately 44 million disability-adjusted life years (DALYs) worldwide, making depression the second leading cause of years lived with disability. Depression is consistently among the top ten causes of disability worldwide across most age groups and in most countries, and it is among the leading causes of burden in Bangladesh specifically.

The National Mental Health Survey Bangladesh 2019 found a point prevalence of depressive disorders of approximately 5.2 percent among adults, which translates to approximately 6 to 7 million adults in Bangladesh living with a depressive disorder at any given time. This estimate, as noted in Chapter 5, is almost certainly an underestimate, given the methodological challenges of measuring depression in a context where somatic presentation and cultural idioms of distress make the direct application of Western diagnostic criteria imprecise. Several smaller community studies have found higher prevalence estimates, ranging from 8 to 15 percent in some surveys using different instruments and in different populations.

The 2025 BMC Psychiatry study analyzing the National Mental Health Survey data confirmed that depressive disorders have among the largest treatment gaps of all mental disorders in Bangladesh, exceeding 90 percent. This means that approximately 90 percent or more of people with depressive disorders in Bangladesh are not receiving any form of care for their condition. The economic and social consequences of this treatment gap are staggering: depression impairs work productivity, increases absenteeism, deteriorates family functioning, increases the use of general medical services (where depression-related somatic complaints consume a disproportionate share of consultation time), increases the risk of suicide, and worsens the course of comorbid physical conditions including cardiovascular disease, diabetes, and tuberculosis.

70.2 Risk Factors for Depression in Bangladesh: A Social Determinants Analysis

Understanding the risk factors for depression in Bangladesh requires a social determinants analysis that goes beyond individual psychological and biological vulnerability to examine the structural conditions that generate and sustain depression in the population. The evidence is consistent and clear: depression in Bangladesh is not randomly distributed across the population but is concentrated in those who are most exposed to social adversity.

Poverty is among the most powerful and consistent risk factors for depression in Bangladesh, as in other low-income settings. The relationship operates through multiple pathways: chronic material deprivation produces chronic stress that activates and dysregulates the HPA axis; food insecurity produces nutritional deficiencies (including iron, vitamin D, and B12) that impair neurobiological function; poverty restricts access to health care, reducing the probability that depression will be recognized and treated; and poverty is associated with a range of correlated

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adversities (crowded housing, unsafe environments, limited social participation) that compound its effects on mental health. A particular mechanism linking poverty to depression in Bangladesh is the experience of "bashinda" (humiliation and social shame) associated with poverty in a context where material success is a primary marker of social status and self-worth.

Gender is the most important sociodemographic correlate of depression in Bangladesh. Women are approximately twice as likely as men to experience depressive disorders, a disparity that is found across most cultural settings but is particularly marked in South Asia. The gender differential in depression in Bangladesh is not primarily explained by biological sex differences but by the profoundly unequal social position of women: their exposure to intimate partner violence (which affects an estimated 55 to 72 percent of ever-married women in Bangladesh), their economic dependence, their restricted mobility and social participation, the psychological consequences of dowry-related harassment and pressure, the cumulative burden of reproductive health (including complications of pregnancy and childbirth, particularly in women with limited access to quality antenatal care), and the specific psychological impact of early marriage and the consequent interruption of educational aspirations.

Intimate partner violence (IPV) deserves special emphasis as a risk factor for depression in Bangladesh. The evidence for a strong and consistent association between IPV and depression is overwhelming across settings, and Bangladesh, with one of the highest rates of IPV in the world, therefore also bears one of the highest consequent burdens of depression. The mechanisms linking IPV to depression are multiple: the direct psychological injury of being assaulted and humiliated by one's intimate partner; the chronic fear and hypervigilance that characterize living with an unpredictable abuser; the isolation from social support that abusers often impose; the destruction of self-worth that is a predictable consequence of sustained psychological abuse; and the neurobiological effects of chronic stress on the HPA axis and neuroplasticity. Bangladesh's high rates of IPV are not simply a cultural given; they reflect specific structural factors including women's economic dependence, limited legal protection and enforcement, norms about male authority over women's bodies, and the use of violence as a mechanism of social control.

Bereavement and loss events are important precipitants of depressive episodes in already vulnerable individuals, and Bangladesh's exposure to repeated natural disasters, political violence (including the Liberation War of 1971 and its long aftermath), and the specific losses associated with poverty (including the death of children that remains far too common in some populations) creates a context of cumulative loss that increases population-level depression risk. Research on survivor populations from the Liberation War has documented elevated rates of depression and PTSD in persons who experienced direct trauma, and these effects have been transmitted across generations through epigenetic mechanisms and through the disruption of family and social structures.

Chronic physical illness is an important and often neglected risk factor for depression in Bangladesh, where the prevalence of chronic conditions including diabetes, hypertension, cardiovascular disease, chronic kidney disease, and tuberculosis is high and rising. The relationship between chronic illness and depression is bidirectional: depression increases the risk and worsens the outcome of physical illness, while physical illness increases the risk of

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depression. The co-management of depression and chronic physical illness is a major clinical priority that is addressed further in Chapter 74.

Migration, both internal (from rural to urban areas) and external (labor migration to the Middle East, Southeast Asia, and elsewhere), is a significant and underappreciated risk factor for depression in Bangladesh. Internal migrants to Dhaka face the mental health challenges of urban poverty, social isolation, lost community, and the specific stresses of informal settlement living. External migrants face the loneliness and isolation of working in foreign countries under often exploitative conditions, the anxiety of separation from family and the pressure to send remittances, and the accumulation of debt that underlies many migration journeys. The families left behind by migrants, predominantly wives and children, face their own psychological challenges including loneliness, the burden of sole parenting, and the anxiety of uncertainty about the migrant's safety and intentions.

Climate change and natural disasters constitute an increasingly important risk factor for depression in Bangladesh, and this importance will only grow in the coming decades. Cyclone-affected populations in Bangladesh show elevated rates of depression and PTSD in the aftermath of disasters, with rates that remain elevated for years after the acute event, particularly in communities that have not recovered economically and socially. Climate-related slow stressors, including saltwater intrusion into agricultural land, loss of fisheries, and gradual land loss to sea level rise, produce a form of chronic loss and environmental grief that is associated with depression and that does not respond well to acute disaster mental health interventions because it is not acute but progressive and permanent.

70.3 The Interaction Between Depression and Physical Health in Bangladesh

The bidirectional relationship between depression and physical health has particular importance in the Bangladesh context, given the high prevalence of both depression and chronic physical illness.

Depression significantly worsens the course and outcome of physical illness through multiple mechanisms. Behaviorally, depression reduces adherence to medical treatment, physical rehabilitation, and lifestyle modification recommendations. Depressed patients are more likely to smoke, less likely to exercise, more likely to have poor diet, less likely to take prescribed medications, and more likely to drop out of care. Biologically, depression activates inflammatory processes and HPA axis dysregulation that worsen cardiovascular disease, metabolic syndrome, and immune function. Neurobiologically, depression impairs the cognitive processes necessary for self-management of chronic disease. The clinical consequence is that, across virtually all chronic diseases studied, the presence of comorbid depression is associated with worse outcomes, more complications, more hospitalizations, and higher mortality.

The relationship between depression and tuberculosis (TB) is particularly important in Bangladesh, where TB remains highly prevalent. Depression is associated with reduced adherence to the long course of TB treatment that is required for cure, which has both individual (increased risk of treatment failure, relapse, and drug resistance) and public health (propagation of drug-resistant strains) consequences. Conversely, the social isolation, stigma, income loss,

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and physical debilitation associated with TB are potent generators of depression. Studies from similar low-income, high-TB-burden settings consistently find that integrating depression screening and treatment into TB care programs improves TB treatment completion and outcomes. This integration has not yet been systematically implemented in Bangladesh and represents an important service development priority.

The relationship between depression and diabetes is another area of critical importance. Bangladesh has one of the highest and fastest-growing burdens of type 2 diabetes in the world, with prevalence estimates of 10 to 14 percent in urban adults and rising rates even in rural areas. Depression and diabetes co-occur at approximately twice the rate expected by chance, and each worsens the other: depression impairs glycemic control through behavioral mechanisms (poor diet adherence, inactivity, medication non-adherence) and biological mechanisms (HPA dysregulation and inflammation impair insulin sensitivity), while uncontrolled diabetes produces fatigue, cognitive impairment, and a range of somatic symptoms that overlap with depression and worsen quality of life. Integrated care models that address both diabetes and depression simultaneously have been shown to improve outcomes for both conditions in several low- and middle-income country settings.

The relationship between depression and maternal and child health is also critically important in Bangladesh. Perinatal depression (depression during pregnancy and the postpartum period) affects an estimated 20 to 30 percent of women in Bangladesh, with even higher rates in low-income, rural, and violence-exposed populations. Maternal depression during pregnancy affects fetal neurodevelopment directly through HPA axis dysregulation and indirectly through the effects on maternal nutrition, antenatal care attendance, and smoking. Postpartum depression severely impairs the quality of mother-infant interaction, reducing the sensitive, responsive caregiving that is essential for secure attachment and healthy cognitive and emotional development in the infant. The long-term consequences of early adversity associated with maternal depression, including impaired cognitive development, increased risk of mental disorders in the child, and intergenerational transmission of social disadvantage, make perinatal depression one of the most important public health priorities in Bangladesh.

CHAPTER SEVENTY-ONE: CULTURAL DIMENSIONS OF DEPRESSION IN BANGLADESH - IDIOMS, EXPLANATORY MODELS, AND HELP-SEEKING

71.1 Dhat Syndrome and the Somatic Expression of Depressive Distress

Among the culture-specific syndromes recognized in the ICD-11 as occurring in South Asian contexts, dhat syndrome is among the most important and most misunderstood. The syndrome, described in Chapter 5 in general terms, deserves extended discussion in the context of mood disorders because it is very frequently associated with an underlying depressive disorder.

Dhat syndrome refers to the patient's attribution of a cluster of symptoms, including fatigue, weakness, loss of concentration, palpitations, sexual dysfunction (particularly early ejaculation or erectile dysfunction), and depression, to the loss of semen, whether through masturbation,

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nocturnal emission, or the belief that semen is being passed in the urine. The cultural framework underlying this attribution holds that semen is a concentrated form of vital energy (shakti, in Hindu-influenced Ayurvedic thought, or hayat, in Islamic-influenced thinking), and that its loss deprives the body of the resource necessary for health, strength, and spiritual vitality. This framework is not marginal or exotic; it is widely shared across class and educational levels in the subcontinent, and it shapes the way that many young men in Bangladesh experience and communicate what the clinician might identify as an anxiety or depressive disorder.

The clinical management of dhat syndrome requires engaging seriously with the patient's explanatory model while simultaneously assessing for and treating the underlying psychiatric disorder. Psychoeducation that addresses the patient's specific concerns about semen loss, provides accurate information about normal seminal physiology, and addresses culturally specific anxieties about masculine identity and sexual performance, is an important component of treatment. However, this psychoeducation must be delivered within a framework of cultural respect rather than dismissal, and it must be accompanied by treatment for the anxiety or depressive disorder that is almost invariably present. Cognitive-behavioral techniques adapted to address the health anxiety and negative automatic thoughts associated with dhat syndrome have shown efficacy in clinical trials.

71.2 Help-Seeking Pathways for Depression in Bangladesh: The Pluralistic Healing Landscape

The typical help-seeking journey of a person with depression in Bangladesh passes through a sequence of providers and healing systems before reaching the formal psychiatric system, if it reaches it at all. Understanding this journey is essential for clinicians, because it shapes both the clinical presentation (the patient who reaches a psychiatrist has typically had months or years of illness, has tried multiple other treatments, and may present with additional iatrogenic complications of inappropriate prior treatments) and the therapeutic relationship (the patient's explanatory model has been shaped by their encounters with other healing systems).

The first resort for many Bangladeshis experiencing depressive symptoms is family consultation. Families typically interpret depressive symptoms through spiritual, relational, or somatic frameworks, and their initial responses reflect these frameworks: encouraging prayer and Quranic recitation, arranging for a ruqyah (exorcism prayer) or taweez (protective amulet), recommending rest and nutritious food, consulting with respected community members or religious leaders, or seeking reconciliation with anyone with whom the patient may be in conflict. This family-based first response is not uniformly unhelpful; social support from family can provide genuine relief for mild distress, and the involvement of family in healing is culturally appropriate and therapeutic. The problem arises when more serious depressive disorder is attributed entirely to spiritual or relational causes and pharmacological treatment is delayed.

Traditional healers, including the kabiraj (herbalist-practitioner), the ojha (spirit healer), and the shrine-based fakir, are often consulted before any formal health care provider. Kabiraj may prescribe herbal preparations including preparations derived from ashwagandha, brahmi, holy basil, and various other medicinal plants used in the Ayurvedic tradition. Ojha may perform exorcism rituals, specify ritual behaviors for the patient and family, and use smoke, water, and

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other ritual media in healing ceremonies. Shrine-based healers may prescribe visits to specific dargahs, periods of residence at a shrine, and participation in specific devotional practices.

The relationship between traditional healing and depression in Bangladesh is complex and cannot be reduced to a simple narrative of harmful delay versus beneficial engagement. For some patients, traditional healing provides culturally meaningful engagement with suffering, social support through the collective ritual, and a sense of agency in the healing process, all of which may be genuinely therapeutic for mild to moderate depression. The delay in accessing biomedical treatment that traditional healing sometimes causes becomes harmful when the condition is severe, when it is deteriorating, or when effective biomedical treatment is available and the condition is responding poorly to traditional approaches.

The village doctor (palli chikitshak) and informal drug shop (pharmacy) are often the first formal contact for patients with depression in Bangladesh. Village doctors typically have minimal formal medical training but manage the majority of primary care episodes in rural Bangladesh. Their knowledge of mental disorders is generally very limited, and their prescribing for depression-like presentations often consists of B vitamins, iron preparations, tonics, and benzodiazepines, none of which address the underlying depressive disorder. Benzodiazepine prescribing for anxiety-depression presentations by village doctors and informal pharmacy staff is a significant public health problem in Bangladesh, contributing to benzodiazepine dependence and providing only symptomatic relief for anxiety while doing nothing for the core depressive disorder.

General practitioners and upazila-level physicians are the next tier in the help-seeking hierarchy. These providers have formal medical training but typically very limited training in psychiatry and behavioral science. Their recognition of depressive disorders is poor, and even when they identify a likely depressive disorder, they may be uncertain about appropriate treatment, limited in prescribing options by drug availability and cost, and skeptical about the value of referral for a condition that many still regard as not a genuine medical problem. Improving the recognition and management of depression at this level, through training programs based on the mhGAP Intervention Guide, is the single most important step that could be taken to reduce the treatment gap for depression in Bangladesh.

71.3 Stigma, Depression, and Its Specific Character in Bangladesh

Stigma toward depression in Bangladesh has a specific character that is shaped by both cultural and religious frameworks, and that differs in important ways from the stigma toward psychotic disorders like schizophrenia, though both are severe and harmful.

Depression is more likely than schizophrenia to be attributed to weakness of character, lack of faith, or failure of willpower rather than to a genuine medical condition. The common Bangladeshi phrase "moner jor rakho" (keep strength of mind) or "dil majboot rakho" (keep the heart strong) captures the widespread cultural belief that depression is a failure of inner resources that should be overcome through religious practice, family support, and sheer determination rather than through medical treatment. This characterological stigma is particularly damaging for women with depression, who may internalize the message that their

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depression is a sign of spiritual or moral weakness, and who may resist seeking help because of shame and the fear of being regarded as weak or as a burden.

The specific stigma associated with depression in women in Bangladesh is compounded by its intersection with gender norms. A woman's depression may be interpreted by her family and community not only as a moral weakness but as a threat to family reputation, as evidence of dissatisfaction with her husband or in-laws, or as a form of melodrama or manipulation. In extreme cases, family members may respond to a woman's depression with increased pressure, restriction of movement, or even violence, in an attempt to "discipline" her out of her apparent willfulness. These responses make the depression worse and make help-seeking more difficult.

The specific stigma toward suicide, which is directly relevant to depression because suicide risk is high in severe depression, is intense in Bangladesh. In the Islamic framework, suicide is unequivocally prohibited (haram) and is regarded as among the most serious of sins. While this prohibition does not prevent suicide from occurring (the rate of suicidal behavior in Bangladesh is substantial), it does affect how suicidal ideation is reported and how suicide deaths are explained and mourned. Families may conceal suicide deaths, attributing them to accidents or medical causes, to protect the deceased from posthumous stigma and to protect the family's social reputation. This concealment distorts official suicide statistics, which are already likely to be significant undercounts given the inadequacy of vital registration systems.

CHAPTER SEVENTY-TWO: PHARMACOLOGICAL TREATMENT OF DEPRESSIVE DISORDERS - PRINCIPLES AND PRACTICE IN BANGLADESH

72.1 Antidepressants: Classes, Mechanisms, and Clinical Profiles

Pharmacological treatment remains a central component of the management of depressive disorders, particularly for moderate to severe episodes. The clinical decision to initiate antidepressant medication involves a careful weighing of the severity of the depressive episode, the patient's preference and prior treatment history, the specific features of the depression (including subtype and comorbidities), the safety of the patient, and the practical considerations of drug availability and cost in the Bangladeshi context.

Selective serotonin reuptake inhibitors (SSRIs) are the recommended first-line pharmacological treatment for depression in most international guidelines, including the WHO mhGAP Intervention Guide, and they are the most appropriate first-line choice in the Bangladesh context for most patients with moderate to severe depression. The SSRIs available in Bangladesh include fluoxetine, sertraline, escitalopram, paroxetine, citalopram, and fluvoxamine. All are broadly equivalent in efficacy for uncomplicated major depressive disorder, and the choice between them is typically guided by their side effect profiles, drug interaction potential, cost, and availability.

Fluoxetine is the cheapest and most widely available SSRI in Bangladesh, and for this reason it is often the most practical first choice in resource-limited settings. Its long half-life (approximately 4 to 6 days for the parent compound, and 4 to 16 days for its active metabolite

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norfluoxetine) makes it relatively forgiving of missed doses and reduces the risk of discontinuation syndrome if doses are missed. However, the same long half-life makes it more problematic than other SSRIs in the context of drug interactions (particularly with tamoxifen, which is relevant for breast cancer patients) and in the management of antidepressant-induced switching in bipolar depression (where the prolonged effect of fluoxetine increases the duration of any mood destabilization).

Sertraline has a good evidence base, including in low- and middle-income country settings, and its broad safety profile makes it one of the preferred SSRIs for use in pregnancy, in the elderly, and in patients with comorbid cardiovascular disease. Escitalopram is the most selective of the SSRIs with relatively fewer drug interactions and a favorable side effect profile, though its cost in Bangladesh is higher than fluoxetine or sertraline in generic form.

All SSRIs can cause nausea, headache, sleep disturbance, and sexual dysfunction as side effects. Nausea is usually transient and can be minimized by starting at a low dose and taking the medication with food. Sexual dysfunction (reduced libido, delayed orgasm, anorgasmia) is a more persistent side effect that affects treatment adherence in a significant proportion of patients and deserves proactive assessment and management. In the Bangladeshi context, patients may not spontaneously report sexual side effects because of the cultural sensitivity around discussing sexual function; clinicians should routinely inquire.

Serotonin-norepinephrine reuptake inhibitors (SNRIs), including venlafaxine and duloxetine, are available in Bangladesh and have a profile of efficacy comparable to SSRIs for depression, with potential additional benefit for the pain symptoms that are commonly associated with depression. Duloxetine has a specific indication for diabetic peripheral neuropathy, making it a useful choice for patients with both depression and diabetic neuropathy, a combination that is clinically common in Bangladesh. SNRIs tend to have slightly more noradrenergic side effects (sweating, increased blood pressure, particularly at higher doses of venlafaxine) than SSRIs.

Mirtazapine is a tetracyclic antidepressant with a distinctive mechanism (antagonism of alpha-2 adrenergic receptors and certain serotonin receptors) that produces efficacy comparable to SSRIs for depression but with a very different side effect profile: sedation and weight gain are common, which can be beneficial for patients with prominent insomnia and weight loss, but problematic for patients who are already overweight or who drive or operate machinery. Mirtazapine has little sexual dysfunction as a side effect and is a useful choice for patients in whom sexual side effects of SSRIs are clinically problematic.

Tricyclic antidepressants (TCAs), including amitriptyline, imipramine, nortriptyline, and clomipramine, were the workhorses of antidepressant treatment before the SSRIs and remain available and used in Bangladesh. They are broadly equivalent to SSRIs in overall antidepressant efficacy but have more significant side effects (anticholinergic effects including dry mouth, constipation, urinary retention, and blurred vision; sedation; orthostatic hypotension) and are far more dangerous in overdose, making them less safe than SSRIs in patients at risk of suicide. TCAs may be preferred in specific situations, particularly for melancholic depression (where some evidence suggests superiority over SSRIs), for neuropathic pain, and for patients who cannot tolerate the side effects of SSRIs. Cost considerations may also

support TCA use in contexts where SSRIs are not covered by health insurance or public procurement.

Monoamine oxidase inhibitors (MAOIs) have a long history and remain effective antidepressants, particularly for atypical depression, but their dietary and drug interaction risks (the requirement to avoid tyramine-containing foods to prevent potentially fatal hypertensive crises, and numerous drug interactions) make them difficult to manage safely in Bangladesh, where monitoring and patient education around the dietary restrictions are practically challenging. Their use in Bangladesh is very limited.

The general principles of antidepressant prescribing in Bangladesh can be summarized as follows. The clinician should start with a low dose and titrate upward slowly to minimize side effects. An adequate therapeutic dose should be maintained for at least four to six weeks before assessing treatment response, as antidepressants require this time to produce their full clinical effect. If the initial treatment is partially effective, the dose should be increased to the maximum tolerated dose before declaring treatment failure. If the treatment is not effective after an adequate trial, the clinician should consider switching to a different antidepressant class, augmenting with a second agent (such as lithium augmentation, which has good evidence in treatment-resistant depression), or reviewing the diagnosis for evidence of bipolar disorder, comorbid substance use, or undertreated medical conditions. Antidepressant treatment should be continued for at least six to twelve months after remission to prevent relapse, and for two or more years in patients with recurrent depression.

72.2 Ketamine and Novel Antidepressants: Developments Relevant to Bangladesh

The most dramatic development in depression pharmacotherapy in the past decade has been the rediscovery of ketamine as a rapid-acting antidepressant. Ketamine, an NMDA glutamate receptor antagonist developed in the 1960s as a dissociative anesthetic, was observed in the early 2000s to produce rapid and robust antidepressant effects within hours of a single intravenous infusion, far faster than any conventional antidepressant. This discovery was transformative because it provided the first clinically meaningful rapid treatment for suicidal depression (where the one to three weeks required for conventional antidepressants to work is a clinically unacceptable delay) and pointed toward glutamate-based rather than monoamine-based mechanisms as potentially central to antidepressant action.

Esketamine (the S-enantiomer of ketamine) was approved by the FDA in 2019 as an intranasal spray for treatment-resistant depression, and subsequently for major depressive disorder with acute suicidal ideation or behavior. The approval of esketamine represented a major milestone as the first genuinely new pharmacological mechanism for depression approved since the development of SSRIs. More recently, the brexanolone (allopregnanolone) intravenous formulation was approved for postpartum depression, and the related oral agent zuranolone (which also acts on GABA-A receptors through its neuroactive steroid mechanism) was approved in 2023 for both major depressive disorder and postpartum depression.

For Bangladesh, the practical relevance of ketamine and esketamine is currently limited by cost, by the requirement for supervised clinical administration, and by the absence of specialized

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services for their administration in most parts of the country. However, at a theoretical level, the ketamine research is important because it points toward the NMDA glutamate receptor and downstream neuroplasticity mechanisms (particularly mTOR signaling and synaptogenesis) as critical targets in depression. This has generated intense interest in developing cheaper, orally available compounds that share ketamine's mechanism but can be administered more simply. Dextromethorphan-bupropion (Auvelity, approved by the FDA in 2022) is one such compound, acting partly through NMDA receptor antagonism and showing faster onset of antidepressant action than conventional antidepressants. Navacaprant, a kappa opioid receptor antagonist, and several other novel agents are in clinical trial for MDD and represent part of the wave of mechanism-innovation in depression pharmacotherapy that is reshaping the field as of 2025 and 2026.

The 2025 Frontiers in Psychiatry review of novel antidepressants summarized the emerging landscape of mechanism-based innovation, highlighting glutamatergic agents, GABA-A modulators, kappa opioid receptor antagonists, melatonergic agents, and compounds targeting the opioid system as the most clinically promising classes beyond conventional monoaminergic antidepressants. For the clinician in Bangladesh, the most practically relevant near-term development from this landscape is likely to be the increasing availability of generic esketamine or oral ketamine formulations at reduced cost, and the potentially wider availability of dextromethorphan-bupropion combinations in the coming years.

72.3 Lithium and Other Mood Stabilizers in Unipolar Depression

Lithium, the prototypical mood stabilizer, has an important role in the management of unipolar depression that is distinct from its role in bipolar disorder. Lithium augmentation, the addition of lithium to an antidepressant in patients who have had an inadequate response to that antidepressant alone, has the strongest evidence base of any augmentation strategy in treatment-resistant depression. Meta-analyses consistently show that lithium augmentation produces clinically significant response rates in approximately 40 to 50 percent of patients who have failed antidepressant monotherapy.

Beyond its role in augmentation, lithium has a specific and uniquely important anti-suicidal effect that is independent of its mood-stabilizing action. Multiple randomized controlled trials and large observational studies have shown that lithium significantly reduces the risk of completed suicide in both unipolar depression and bipolar disorder, to rates close to those of the general population. This anti-suicidal effect is thought to be mediated in part through lithium's effects on serotonin neurotransmission and on impulsivity, and in part through its anti-inflammatory and neuroprotective effects (including enhancement of BDNF expression and inhibition of GSK-3beta, a kinase implicated in both neuronal apoptosis and the circadian clock).

In Bangladesh, lithium is available and is used primarily in the management of bipolar disorder. Its use in unipolar treatment-resistant depression is less common, partly reflecting limited awareness of the augmentation evidence, partly reflecting the monitoring requirements (regular serum lithium levels, renal and thyroid function tests) that are more difficult to arrange in many Bangladeshi clinical settings, and partly reflecting concerns about toxicity. However, the

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combination of lithium's augmentation efficacy and its anti-suicidal properties makes it a particularly important agent to consider for the management of severe, treatment-resistant depression in Bangladesh, where the treatment gap for suicidal depression is a serious public health concern.

CHAPTER SEVENTY-THREE: PSYCHOSOCIAL AND PSYCHOLOGICAL TREATMENTS FOR DEPRESSION IN BANGLADESH

73.1 The Evidence Base for Psychological Treatments

The evidence for psychological treatments of depression is strong, extensive, and growing. Cognitive-behavioral therapy (CBT) has the most extensive evidence base of any psychological treatment for depression, with meta-analyses of hundreds of randomized controlled trials consistently showing effect sizes comparable to or exceeding those of antidepressant medications for mild to moderate depression. CBT is effective for acute depressive episodes, for the prevention of relapse (where it has advantages over antidepressant medication in long-term outcomes, particularly after treatment discontinuation), and for the treatment of residual symptoms. Mindfulness-based cognitive therapy (MBCT), a modification of CBT that incorporates mindfulness meditation practices adapted from the Buddhist tradition, has been specifically developed for the prevention of depressive relapse and has been shown in multiple trials to halve the rate of relapse in patients with three or more previous depressive episodes.

Behavioral Activation (BA), a simplified version of CBT that focuses specifically on increasing engagement with positively reinforcing activities and reducing avoidance, has been shown in several trials to be as effective as full CBT for depression, while being simpler to deliver and therefore more amenable to task-sharing and lay worker delivery. BA has been adapted for low-resource settings in several studies, including settings in sub-Saharan Africa and South Asia, with promising results.

Interpersonal psychotherapy (IPT), which focuses on improving the quality of current interpersonal relationships and addressing specific interpersonal problems related to the onset and maintenance of depression (grief, role disputes, role transitions, and interpersonal deficits), has a strong evidence base for the treatment and prevention of depression across diverse cultural settings. IPT is particularly relevant in the Bangladesh context given the centrality of interpersonal relationships and family dynamics in the expression and maintenance of depression in Bangladeshi women.

Problem-solving therapy (PST), which teaches a structured approach to identifying and solving the practical problems that contribute to depressive distress, is brief (typically six to eight sessions), can be delivered by trained non-specialist workers, and has good evidence of efficacy for depression in primary care settings. PST has particular relevance in resource-limited settings because of its brevity, its focus on practical problems that the clinician can readily understand and address, and its suitability for task-sharing delivery.

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73.2 Culturally Adapted Psychological Treatments in Bangladesh

The adaptation of evidence-based psychological treatments to the Bangladesh cultural context is both necessary and challenging. It is necessary because the concepts, metaphors, examples, and relational frameworks embedded in CBT and other evidence-based therapies were developed primarily in Western cultural contexts and do not translate directly to the Bangladeshi context. It is challenging because rigorous adaptation requires systematic study of local idioms of distress and healing, testing of adapted protocols in local populations, and the development of training programs for locally available workers.

Several research groups in Bangladesh and internationally have worked on culturally adapted psychological treatments for depression in Bangladesh and similar South Asian settings. The Healthy Activity Program (HAP), developed by Patel and colleagues for the treatment of depression by lay workers in Goa, India, has been adapted and piloted in Bangladesh. HAP combines behavioral activation with components addressing healthy thinking and activity scheduling, and can be delivered by trained community workers in approximately six sessions. A Bangladeshi adaptation of HAP was found feasible and potentially effective in a small pilot study, though larger-scale evaluation is needed.

The adaptation process for psychological therapies in Bangladesh needs to attend to several cultural dimensions. First, the concept of individual cognitive restructuring (challenging one's own thoughts) may be experienced as unfamiliar or even threatening in a cultural context where the proper orientation of the mind and spirit is more often understood as a matter of relationship, faith, and ritual than of individual cognitive analysis. Second, the family system, which in Bangladesh is typically a much more active participant in the person's psychological life than Western psychological models assume, needs to be involved in treatment planning in culturally appropriate ways. Third, the role of faith and religious practice in coping with depression needs to be explicitly engaged with rather than bypassed; an adapted treatment protocol that incorporates religious resources (such as meditation on specific Quranic verses, the value of salat as a structured mindfulness practice, the therapeutic use of community religious gatherings) is likely to be more culturally acceptable and potentially more effective than one that ignores this dimension.

The training of community health workers and primary care health workers in simplified, task-sharing-adapted psychological interventions is the most important practical strategy for scaling psychological care for depression in Bangladesh. The mhGAP Intervention Guide provides a framework for this, including psychoeducation about depression, behavioral activation, and basic problem-solving, that can be delivered by trained non-specialists. The WHO's Thinking Healthy Program, developed for perinatal depression and adapted for South Asian settings including Bangladesh, has been tested in community health worker delivery and shows promising effectiveness.

73.3 Electroconvulsive Therapy: Evidence and Ethical Considerations

Electroconvulsive therapy (ECT) is a highly effective treatment for severe and treatment-resistant depression and is the treatment of choice for psychotic depression, severe melancholic

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depression with psychomotor retardation, and severe depression with suicidal risk requiring rapid response. Meta-analyses consistently show ECT to be significantly more effective than antidepressant medications for severe depression, with response rates of approximately 70 to 90 percent in carefully selected patients.

ECT involves the induction of a generalized seizure through the application of an electrical current to the scalp under general anesthesia. In its modern form, brief-pulse and ultra-brief-pulse ECT with careful electrode placement, ECT is far safer than its historical reputation suggests. The main side effects are transient confusion and short-term memory impairment, particularly for autobiographical memories from around the time of treatment, which typically resolves within weeks to months after treatment completion. The feared cognitive side effects, while real and requiring careful discussion with patients and families, need to be weighed against the severe and potentially life-threatening consequences of inadequately treated severe depression.

In Bangladesh, ECT is available at a limited number of centers, primarily NIMH (National Institute of Mental Health) in Dhaka, Pabna Mental Hospital, and a small number of private psychiatric hospitals. Access is very limited outside Dhaka, and the available facilities use equipment that varies in modernity. The practice of ECT in Bangladesh has historically been accompanied by controversy, partly because of the association in the public mind with coercive and punitive uses of ECT in its historical and fictional representations, and partly because general anesthesia capacity is not universally available at all ECT-providing facilities in Bangladesh.

The ethical framework for ECT in Bangladesh requires particular attention. Fully informed consent from the patient (or from the legal guardian if the patient lacks decision-making capacity) is essential, and the information provided must include an honest account of both the benefits and the side effects. The use of ECT without anesthesia (which is safer than modified ECT in terms of technical requirements but more uncomfortable and associated with greater cardiovascular risk) should be regarded as a step that requires especially careful justification and especially robust consent or surrogate decision-making processes. The CRPD (Convention on the Rights of Persons with Disabilities), which Bangladesh has ratified, has raised questions about the compatibility of coercive ECT with international human rights standards; the Bangladesh Mental Health Act 2018 provides some guidance on involuntary treatment but does not specifically address ECT in the detail that the clinical and ethical complexity of the intervention requires.

73.4 Neuromodulation and Digital Mental Health: Emerging Approaches

Beyond ECT, several other neuromodulation approaches have evidence of antidepressant efficacy and deserve mention. Transcranial magnetic stimulation (TMS) uses repeated magnetic pulses applied to the scalp to stimulate (or inhibit, depending on the frequency) the underlying cortex, particularly the left dorsolateral prefrontal cortex, which is hypoactive in depression. Randomized controlled trials have established TMS as an effective treatment for moderate to severe depression that has not responded to antidepressants, with effect sizes that are meaningful though smaller than those of ECT. TMS has the advantage over ECT of not requiring anesthesia,

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of having no significant cognitive side effects, and of being deliverable in an outpatient setting. TMS machines are available in Bangladesh at a small number of private centers in Dhaka, though the cost remains a major barrier.

The FDA approval in December 2025 of the first at-home, wearable TMS device (Flow Neuroscience) for adults with moderate to severe major depressive disorder represents a significant development in the accessibility of neuromodulation, though the cost and the requirement for remote monitoring by a clinician mean that its practical applicability in Bangladesh in the near term is limited. However, the development of more affordable and portable neuromodulation technologies is an area of active research, and the trajectory suggests that these approaches may become progressively more accessible in lower-resource settings over the coming years.

Digital mental health interventions, including smartphone applications, web-based platforms, and chatbot-delivered psychological support, are an area of rapid development with potentially important relevance for Bangladesh, where smartphone penetration is increasing rapidly. The evidence base for digital mental health interventions for depression is growing, and several meta-analyses suggest that internet-delivered CBT has efficacy comparable to face-to-face CBT for mild to moderate depression. However, the application of digital mental health interventions in Bangladesh faces several challenges: limited internet connectivity outside urban areas, digital literacy barriers among older and less educated populations, the absence of validated Bangla-language digital mental health programs, and the significant barriers to engagement and retention that characterize digital interventions in lower-resourced populations. Research and development of Bangla-language digital mental health programs adapted to the Bangladeshi context is an important research and implementation priority.

CHAPTER SEVENTY-FOUR: SPECIAL POPULATIONS - PERINATAL, ELDERLY, AND ADOLESCENT DEPRESSION IN BANGLADESH

74.1 Perinatal Mental Health: Depression During Pregnancy and the Postpartum Period

Perinatal depression, encompassing depression during pregnancy and in the first year after delivery, is among the most important and most neglected mental health problems in Bangladesh. The World Health Organization estimates that approximately 10 to 15 percent of women in high-income countries and 19 to 25 percent of women in low- and middle-income countries experience perinatal depression. Bangladeshi community studies have found even higher rates: a study by Gausia and colleagues in rural Bangladesh found that 22 percent of women experienced postnatal depression at 12 weeks postpartum, and a more recent community study found depression rates of approximately 30 to 35 percent in women during the third trimester and the first three months postpartum, with rates even higher in women who had experienced intimate partner violence, had poor social support, or lived in conditions of extreme poverty.

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These extraordinarily high rates of perinatal depression in Bangladesh reflect the specific vulnerability of Bangladeshi women during the perinatal period. Pregnancy and childbirth in Bangladesh are not only biological events but major social transitions that involve complex negotiations of family relationships, economic resources, and social expectations. The preference for male children in many Bangladeshi families means that the birth of a female child is sometimes met with disappointment or even hostility from the husband and in-laws, which is a direct social risk factor for postpartum depression. Dowry pressure does not end at marriage but often intensifies after childbirth if the husband or in-laws are dissatisfied with the size of the dowry or if complications arise in the marriage. The absence of adequate maternity support systems means that many women recover from childbirth under conditions of physical exhaustion and social isolation. And the high rate of intimate partner violence, which often intensifies during pregnancy, creates a specific and acute risk environment.

The consequences of perinatal depression in Bangladesh extend far beyond the suffering of the mother herself. As discussed in Chapter 70, maternal depression during pregnancy and the postpartum period has significant consequences for fetal and infant development, for the quality of early attachment, for the child's cognitive and emotional development, and for the intergenerational transmission of social disadvantage. The health and developmental consequences of perinatal depression in Bangladesh are particularly severe given the baseline disadvantage of many children, including malnutrition, limited access to early childhood stimulation, and inadequate health care.

The management of perinatal depression in Bangladesh requires a staged approach that begins with systematic screening and integrates into existing maternal and child health (MCH) services. The Edinburgh Postnatal Depression Scale (EPDS) has been validated in a Bengali-language version and is the recommended screening tool for perinatal depression in Bangladesh. A score of 10 or above on the EPDS is the commonly used threshold for a positive screen, indicating the need for further clinical assessment. Ideally, the EPDS should be administered at multiple points in the perinatal period: during antenatal care visits in the second and third trimester, and at postpartum visits at 4 to 6 weeks, 3 months, and 6 months.

The treatment of perinatal depression in Bangladesh must take into account the specific concerns about the safety of antidepressant medications in pregnancy and breastfeeding. Sertraline has the most extensive safety data of any SSRI in pregnancy and is generally regarded as the safest first-line choice when antidepressant treatment is required during pregnancy. The risks of antidepressant exposure to the fetus (which are small and mostly confined to neonatal adaptation syndrome, a transient and mild condition) must be weighed against the much more serious risks of untreated severe depression in pregnancy, including malnutrition, preterm birth, impaired fetal development, and maternal suicide. For women with mild to moderate perinatal depression, structured psychological interventions delivered by trained community health workers represent the most scalable and safest first-line treatment.

The WHO's Thinking Healthy Program (THP), a CBT-adapted intervention for perinatal depression designed specifically for delivery by community health workers in South Asian settings, has been evaluated in Bangladesh and shown promising results. THP comprises 16 sessions delivered by community health workers, covers CBT-adapted cognitive and behavioral

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techniques as well as mother-infant relationship promotion, and has been tested in Pakistan and adapted for Bangladesh. A recent Bangladesh pilot study found that THP was acceptable to mothers, feasible to deliver by community health workers, and associated with improvements in depressive symptoms and maternal function. The scaling of this program into the national community health worker system (the shasthya shebika and shasthya kormii network) represents a major strategic opportunity for addressing perinatal depression at population scale in Bangladesh.

Postpartum psychosis, while rare (occurring in approximately 1 to 2 per 1000 deliveries), is a psychiatric emergency that requires immediate recognition and hospitalization. It typically presents within the first two weeks after delivery with a rapidly evolving and often florid clinical picture including confusion, hallucinations, delusions, disorganized behavior, and profound mood disturbance. Postpartum psychosis is strongly associated with bipolar disorder, and women with a history of bipolar disorder have a risk of postpartum psychosis of approximately 25 to 30 percent. Management requires urgent hospitalization, antipsychotic treatment, and in most cases mood stabilizer treatment, with very careful attention to the safety of the infant if the mother has command hallucinations or beliefs that involve the infant.

74.2 Depression in Older Adults in Bangladesh

Depression in older adults is a major and rapidly growing burden in Bangladesh, as discussed briefly in Chapter 5. The age-specific issues in depression assessment and management in older Bangladeshis deserve specific attention.

The presentation of depression in older adults in Bangladesh is often atypical. Somatic complaints are even more prominent in older depressed patients than in younger ones, and they frequently coexist with genuine medical comorbidities, making the disentanglement of depression from physical illness particularly challenging. Cognitive symptoms, particularly poor concentration, memory complaints, and pseudodementia (a reversible cognitive impairment caused by severe depression that can be mistaken for genuine dementia), are important features of depression in older adults. A key diagnostic challenge is distinguishing between late-onset depression (which may be associated with cerebrovascular changes and represents a risk factor for subsequent dementia), depression complicating genuine dementia, and pseudodementia due to depression.

Suicide risk in older adults in Bangladesh is an important and underappreciated concern. Globally, older adults (particularly older men) have among the highest rates of completed suicide of any age group, and older adults who survive suicide attempts are more likely to have intended death and more likely to use lethal methods than younger people. In Bangladesh, the specific risk factors for suicide in older adults include widowhood (particularly for men), social isolation, financial dependence on adult children who may not be supportive, physical illness and disability, and the psychological impact of loss of social roles and status.

The pharmacological management of depression in older adults requires specific attention because of the physiological changes of aging that affect drug metabolism and pharmacodynamics. In general, older adults require lower starting doses, slower titration, and

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careful monitoring of side effects, particularly orthostatic hypotension (which increases fall risk), anticholinergic effects (which worsen cognitive function and can precipitate delirium), and QTc prolongation (which is a cardiac risk particularly relevant to citalopram and escitalopram at higher doses in elderly patients with cardiac disease). SSRIs, particularly sertraline and escitalopram, are the preferred first-line antidepressants for older adults because of their relatively safer side effect profiles. Tricyclics should generally be avoided in older adults because of their anticholinergic and hypotensive effects.

74.3 Adolescent Depression in Bangladesh

Adolescent depression in Bangladesh is a growing public health concern that is attracting increasing research attention and policy interest. As discussed in Chapter 5, the NMHS 2019 found prevalence rates of mental disorders among children and adolescents of approximately 13.6 percent, with emotional disorders (predominantly anxiety and depression) among the most common presentations.

The clinical features of depression in Bangladeshi adolescents often differ from those in adults. Adolescent depression is more likely to present with irritability than with the classic sad mood of adult depression, and this irritability may be mistaken for conduct disorder, oppositional defiant disorder, or normal adolescent moodiness. School refusal, declining academic performance, social withdrawal, and increased conflict with family members are common presentations. Self-harm, including cutting, burning, and other forms of non-suicidal self-injury, is more common in depressed adolescents than in adults and requires specific assessment and management. The specific social context of Bangladeshi adolescents, including educational pressure, family conflict over life choices (particularly marriage and career decisions for young women), the impact of social media, and for girls the specific psychological consequences of puberty and the cultural changes it brings (including restriction of movement, increased surveillance, and the initiation of marriage negotiations), all shape the character of adolescent depression in Bangladesh.

The assessment of suicide risk in depressed adolescents requires particularly careful attention to the specific precipitants that are most commonly associated with adolescent suicide in Bangladesh. Examination failure and its consequences (including family shame, the loss of educational and career opportunities, and the fear of parental disappointment) is identified as a precipitant in a substantial proportion of adolescent suicide deaths in Bangladesh. Intimate partner conflict and sexual violence, which are significant problems for adolescent girls in Bangladesh, are also important precipitants. The increasing use of social media and the specific risks of cyberbullying, exposure to graphic content, and social comparison add a new dimension to adolescent suicide risk that is still poorly understood in the Bangladesh context.

CHAPTER SEVENTY-FIVE: BIPOLAR SPECTRUM DISORDERS - CLASSIFICATION, PHENOMENOLOGY, AND DIAGNOSTIC CHALLENGES

75.1 The Bipolar Spectrum: From Kraepelin to the Twenty-First Century

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The concept of a bipolar spectrum extending from major depressive disorder through increasingly pronounced degrees of bipolarity to classic manic-depressive illness has been developed most influentially by psychiatrists including Ronald Fieve, David Dunner, Jules Angst, and Hagop Akiskal over the past half-century. The spectrum concept challenges the sharp categorical boundary between unipolar and bipolar disorders in DSM-5-TR and ICD-11 and proposes instead a continuous distribution of mood instability and mood elevation that grades from normal temperamental variation through soft bipolarity to the frank disorder of bipolar I.

The clinical justification for the spectrum concept rests on several lines of evidence. Family studies consistently show that relatives of bipolar I patients have elevated rates not only of bipolar I and II disorder but also of major depressive disorder and cyclothymia, suggesting a common familial liability that expresses itself at different points on a spectrum depending on additional genetic and environmental factors. Prospective follow-up studies show that a substantial proportion of patients initially diagnosed with major depressive disorder later develop hypomanic or manic episodes and are reclassified as bipolar, a conversion rate that may reach 20 to 30 percent or more over long-term follow-up. Pharmacological studies show that some patients with apparent unipolar depression show activation or switching to elevated mood on antidepressant treatment, a response that is more consistent with a bipolar than a unipolar diagnosis.

For the clinician in Bangladesh, the most important practical implication of the spectrum concept is the need to systematically assess for hypomanic features in all patients presenting with depression. A patient who meets criteria for major depressive disorder but who has a history of episodic periods of elevated mood, decreased sleep need, increased energy, grandiosity, increased goal-directed activity, or impulsive behavior, however brief or mild, may be on the bipolar spectrum and may require a different treatment approach than a patient with unambiguous unipolar depression.

75.2 Bipolar I Disorder: Phenomenology of Mania

Bipolar I disorder is defined by the occurrence of at least one manic episode. A manic episode is a distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased goal-directed activity or energy, lasting at least one week and present most of the day, nearly every day. The mood change must be sufficiently severe to cause marked impairment in social or occupational functioning, to require hospitalization to prevent harm to self or others, or to be accompanied by psychotic features.

The clinical picture of full mania is one of the most striking in all of medicine. The person in a manic episode experiences a profound subjective sense of well-being, energy, and capability that is at sharp variance with their actual functional state. They sleep very little, often only two to four hours a night, without feeling tired. Their speech is rapid and pressured, their thoughts racing and loosely associated. They are enormously energetic and busy, initiating multiple projects simultaneously. Their self-esteem is inflated, sometimes to grandiose proportions: they may believe they have special abilities, a special mission, or special knowledge. Their judgment is severely impaired: they engage in risky activities including reckless spending, sexual indiscretions, substance use, driving dangerously, and making grandiose plans and

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commitments. They are easily irritated when their plans are frustrated or when others express concern about their behavior.

In Bangladesh, mania presents with the same core features as in other populations, but its expression is shaped by local cultural contexts. Grandiosity may be expressed in religious terms: the person may believe they are a prophet, a messenger of Allah, or a saint with special powers. This religious grandiosity is important to distinguish carefully from genuine religious experience and from culturally normative expressions of religious devotion, though the functional impairment, the lack of insight, the associated behavioral changes, and the episodic character of the presentation typically make the distinction clinically manageable. Increased sexual behavior in mania, in the Bangladeshi context where premarital and extramarital sexual activity is strongly condemned, may lead to acute social and family crises. Reckless financial behavior may result in the rapid depletion of family savings or the incurring of large debts, producing consequences that persist long after the manic episode resolves and that represent a major source of burden for the patient and their family.

The detection of mania in Bangladesh is complicated by several factors. First, many people and families interpret manic symptoms, particularly elevated mood, grandiosity, and increased energy, as a positive development rather than as illness, at least initially, and may not seek help until the behavioral consequences become serious or until the episode transitions to a mixed or depressive state. Second, the cultural frameworks of jinn possession and religious ecstasy may be applied to explain elevated mood and unusual behavior, delaying psychiatric consultation. Third, mania that is primarily expressed through irritability rather than elevated mood (which is more common in men and in young people) may be interpreted as a behavioral problem or a conflict rather than as an episode of illness.

75.3 Bipolar II Disorder: The Under-Recognized Hypomanic Pole

Bipolar II disorder is defined by the occurrence of at least one hypomanic episode and at least one major depressive episode, without any history of full manic episodes. Hypomania is a milder form of the manic syndrome that does not cause marked functional impairment and does not require hospitalization, but that represents a clear change from baseline mood and behavior and is observable by others.

The clinical recognition of hypomania is challenging for several reasons. First, hypomanic episodes are often experienced as pleasant and ego-syntonic by the patient, who is unlikely to present complaining of them. Second, the functional changes of hypomania (increased energy, decreased sleep need, increased productivity) may be interpreted by the patient and their environment as simply feeling "better than usual" or as a period of productive energy rather than as a symptom of illness. Third, in Bangladesh, the increased religiosity, charitable giving, and social engagement that may characterize a hypomanic episode may be positively valued by the community and family, further reducing the probability of clinical recognition.

The consequence of missed bipolar II diagnosis is typically that the patient is treated for depression with antidepressant monotherapy, without mood stabilizers. This approach carries risks: antidepressants in bipolar II patients can trigger hypomanic or manic episodes

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(antidepressant-induced switching), can worsen the course of the illness by increasing the frequency of mood episodes (cycle acceleration), and can induce mixed states that are associated with high suicide risk. The 2025 Frontiers in Psychiatry review on challenges in bipolar disorder treatment guidelines noted that antidepressant monotherapy remains the most common error in the management of bipolar depression globally, including in low-income settings, and that reducing this error requires both clinician education and systematic inquiry for hypomanic history in all patients presenting with depression.

75.4 Cyclothymia and Bipolar Spectrum Conditions

Cyclothymic disorder is defined by at least two years of numerous periods of hypomanic symptoms that do not meet full criteria for a hypomanic episode and numerous periods of depressive symptoms that do not meet full criteria for a major depressive episode. The person's mood is chronically unstable, fluctuating between these hypomanic and depressive poles. Cyclothymia may be underdiagnosed because the symptoms in isolation are each subthreshold and may be perceived as temperamental rather than as a clinical disorder.

From a clinical and public health perspective in Bangladesh, cyclothymia and other sub-threshold bipolar conditions are important because they cause significant functional impairment, they carry elevated rates of comorbid substance use and anxiety disorders, and they may over time convert to fuller bipolar presentations in some cases. Their recognition requires a detailed longitudinal account of mood variability over years rather than a cross-sectional symptom assessment.

CHAPTER SEVENTY-SIX: NEUROBIOLOGY AND GENETICS OF BIPOLAR DISORDERS

76.1 The Genetic Architecture of Bipolar Disorder

The genetics of bipolar disorder is one of the most intensively studied areas in psychiatric genetics, and the picture that has emerged from large-scale GWAS studies is both scientifically important and clinically illuminating.

The heritability of bipolar disorder, based on twin studies, is approximately 65 to 80 percent, substantially higher than that of major depressive disorder, reflecting the stronger genetic component of bipolar disorder. First-degree relatives of patients with bipolar I disorder have a lifetime risk of any bipolar disorder of approximately 10 to 15 percent, compared to a general population risk of approximately 1 to 2 percent, and the risk of a broader range of mood disorders is even higher.

The landmark 2025 Nature paper by O'Connell and colleagues, reporting a large-scale GWAS of bipolar disorder, identified numerous genetic loci of significance and provided important biological insights. Genes implicated in calcium channel function (particularly CACNA1C, which encodes the alpha-1C subunit of the L-type calcium channel), in glutamate receptor

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function, and in circadian rhythm regulation emerged as among the most important contributors to bipolar disorder risk. The study also confirmed the significant genetic overlap between bipolar disorder and schizophrenia (which share genetic risk factors including CACNA1C and many other loci), between bipolar disorder and major depressive disorder (reflecting the spectrum nature of mood disorders), and between bipolar disorder and ADHD. This cross-disorder genetic architecture suggests that the diagnostic boundaries between these conditions, while clinically useful, do not map precisely onto distinct biological entities.

The implications of the genetic findings for practice in Bangladesh are several. The elevated risk in first-degree relatives of bipolar patients supports the clinical practice of taking a detailed family psychiatric history in all patients presenting with mood symptoms, both to aid diagnosis and to identify family members who might benefit from genetic counseling or early monitoring. The identification of CACNA1C and calcium channel genes as important risk factors provides a potential biological rationale for the efficacy of certain calcium channel modulators (including verapamil, which has been used as a mood stabilizer) and suggests that calcium channel biology may be a fruitful target for future drug development. And the circadian genetics findings strengthen the case for circadian-stabilizing strategies (including regular sleep schedules, light therapy, and social rhythm therapy) as potentially important components of bipolar management.

76.2 Neuropathology and Neuroimaging of Bipolar Disorder

The neurobiological picture of bipolar disorder, while overlapping substantially with that of major depressive disorder, has distinctive features that reflect the unique character of a disorder that oscillates between mood states rather than remaining stably depressed.

Neuroimaging studies of bipolar disorder have consistently found reduced volume and altered functional activity in the prefrontal cortex, which is critically involved in emotional regulation and executive function. Specifically, the subgenual anterior cingulate cortex and the medial prefrontal cortex, which serve as key regulators of the amygdala's emotional reactivity, show reduced gray matter volume and impaired functional activation in patients with bipolar disorder, and these abnormalities are associated with the degree of emotional dysregulation characteristic of the condition.

The amygdala shows hyperactivation in bipolar disorder, particularly in manic and mixed states, reflecting the heightened emotional reactivity and reduced regulatory control from the prefrontal cortex. The hippocampus shows reduced volume, particularly in patients with multiple previous mood episodes, suggesting that repeated affective episodes may have neurotoxic consequences mediated through the HPA axis and inflammatory mechanisms.

The white matter changes observed in bipolar disorder deserve special mention. Multiple neuroimaging studies have found increased rates of white matter hyperintensities, particularly in periventricular and deep white matter regions, in patients with bipolar disorder compared to controls. These hyperintensities, visible on MRI as white spots, reflect areas of cerebrovascular injury or demyelination, and their presence in bipolar disorder is consistent with the hypothesis that cerebrovascular pathology and inflammatory processes contribute to the neurobiology of at

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least some cases. The overlap between bipolar disorder and cardiovascular risk factors, including the metabolic syndrome that is associated with antipsychotic treatment and with the illness itself, is an important consideration in the long-term physical health care of patients with bipolar disorder in Bangladesh.

76.3 Mitochondria, Inflammation, and Other Emerging Mechanisms

Beyond the established neuroimaging, HPA axis, and neurotransmitter findings, several emerging biological hypotheses deserve mention in the context of bipolar disorder.

The mitochondrial hypothesis, noting the role of mitochondria in energy metabolism and neuronal function, proposes that mitochondrial dysfunction contributes to the episodic nature of bipolar disorder and to the neurodegeneration that occurs with repeated mood episodes. Several effective mood-stabilizing treatments, including lithium and valproate, have measurable effects on mitochondrial function. The specific vulnerability of neurons with very high energy demands (including those in the prefrontal cortex and the amygdala) to mitochondrial dysfunction may explain the selective neural circuit abnormalities observed in bipolar disorder.

The neuroinflammatory hypothesis in bipolar disorder is supported by evidence of elevated inflammatory markers in manic and depressive episodes (with normalization in euthymia in some, though not all, studies), increased rates of autoimmune conditions in patients with bipolar disorder and their relatives, and the known anti-inflammatory effects of lithium. The possibility that immune dysregulation contributes to the episodic course of bipolar disorder, with inflammatory activation triggering mood episodes, is consistent with clinical observations about the role of physical illness (particularly infections) in precipitating mood episodes.

CHAPTER SEVENTY-SEVEN: EPIDEMIOLOGY OF BIPOLAR DISORDERS IN BANGLADESH

77.1 Prevalence and Burden

Bipolar disorders are less prevalent than major depressive disorder but carry a disproportionate burden of disease because of their early age of onset, their recurrent and chronic course, their high rates of suicide, and their significant functional consequences over the lifetime.

Globally, the lifetime prevalence of bipolar I disorder is approximately 0.6 to 1 percent, and the lifetime prevalence of the broader bipolar spectrum (including bipolar II and cyclothymia) is approximately 2 to 4 percent. The 2025 Lancet review of bipolar disorder reported that approximately 40 million people worldwide are affected by bipolar disorders. Regional variability in prevalence is observed, with lower rates in South Asia, East Asia, and Oceania compared to North America, Western Europe, and Latin America, though methodological differences between studies account for some of this variation.

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In Bangladesh, robust prevalence data on bipolar disorder are limited. The National Mental Health Survey Bangladesh 2019, as analyzed in the 2025 BMC Psychiatry study, found that bipolar disorder had one of the higher service coverage rates among major mental disorders, which likely reflects not higher recognition in the community but rather that the more dramatic presentations of mania are more likely to lead to hospital-based care. The BMC Psychiatry study found that the treatment gap for bipolar disorder was comparatively lower than for depression or anxiety disorders, though still substantial.

The Rajshahi study of bipolar disorder among married women (Rahman and colleagues, PLOS One 2020), the first systematic study of bipolar prevalence in Bangladesh, found a prevalence of 2.5 percent using the Bipolar Spectrum Diagnostic Scale among a sample of married women in Rajshahi City, with 7.2 percent meeting criteria for probable bipolar disorder. The study identified poverty, poor marital relationship, mental disorder history, and bereavement as significant risk factors. While this study had methodological limitations (including the use of a screening instrument rather than a structured diagnostic interview, and a restricted sample), it provides valuable baseline data and clearly establishes that bipolar disorder is not rare in Bangladesh.

77.2 The Diagnostic Journey in Bangladesh

The diagnostic journey of a patient with bipolar disorder in Bangladesh is typically long and arduous. Studies from similar settings in South Asia suggest that the average delay between onset of symptoms and first correct diagnosis of bipolar disorder is approximately seven to ten years, during which patients may receive multiple incorrect diagnoses (most commonly depression or psychotic disorder) and inappropriate treatments. This delay is not simply a reflection of patient-level factors but reflects the inadequacy of the health system's capacity to recognize and diagnose bipolar disorder, particularly in non-specialist settings.

The most common reason for diagnostic delay in bipolar disorder is that patients typically present during depressive episodes rather than during manic or hypomanic episodes, and the first clinician to see them does not systematically assess for a history of mood elevation. The manic or hypomanic history is often not spontaneously volunteered because these episodes are often remembered positively by the patient, because the patient may not recognize them as abnormal, or because the family may not have connected them to the current depressive presentation.

A specific diagnostic challenge in Bangladesh concerns the differentiation of manic episodes from acute psychotic episodes due to schizophrenia spectrum disorders. A patient presenting with grandiosity, hallucinations, delusions, disorganized behavior, and agitation may be diagnosed with acute psychosis or schizophrenia if the mood component is not carefully elicited. Features that favor a diagnosis of mania with psychotic features over schizophrenia include a family history of mood disorders, a clear onset and episodic course, mood-congruent psychotic features (grandiose delusions consistent with the elevated mood), a history of previous depressive episodes, and a more rapid and complete recovery with treatment.

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CHAPTER SEVENTY-EIGHT: MANAGEMENT OF BIPOLAR DISORDERS IN BANGLADESH

78.1 Principles of Bipolar Management

The management of bipolar disorder is complex and requires a long-term perspective. Unlike major depressive disorder, in which treatment is primarily aimed at resolving a current episode and preventing recurrence, bipolar disorder management must simultaneously address acute episodes, prevent future episodes, promote inter-episode functional recovery, manage comorbid conditions, and support the patient in living with a chronic and recurrent illness. These multiple goals require a comprehensive, integrated, and individualized approach that combines pharmacological treatment, psychosocial intervention, lifestyle management, and active engagement with the patient and their family over the long term.

The fundamental principle that distinguishes the management of bipolar disorder from that of unipolar depression is the importance of mood stabilization as the primary therapeutic goal, distinct from and in many ways prior to symptom resolution. Mood stabilizers are the pharmacological backbone of bipolar treatment, and the inappropriate use of antidepressant monotherapy (without mood stabilizers) is the most common and consequential error in bipolar management in Bangladesh and globally.

78.2 Pharmacological Management of Bipolar Disorder

The pharmacological management of bipolar disorder in Bangladesh can be organized around three treatment phases: acute mania, acute bipolar depression, and maintenance (prophylaxis).

For acute mania, the treatment priorities are the rapid control of agitation and dangerous behavior, the resolution of the manic syndrome, and the initiation of mood stabilization. Antipsychotic medications are typically the most rapidly effective agents for acute mania and are usually the first-line pharmacological choice for its management. Both typical antipsychotics (haloperidol remains available and effective) and atypical antipsychotics (particularly olanzapine, risperidone, quetiapine, and aripiprazole) have established efficacy for acute mania. Lithium and valproate are effective mood stabilizers with established antimanic properties, but their onset is somewhat slower than antipsychotics. Benzodiazepines (particularly lorazepam or clonazepam) are valuable as adjunctive agents for immediate sedation and behavioral control in severely agitated mania.

The choice of initial treatment for acute mania in Bangladesh is heavily influenced by practical considerations. Haloperidol is the most widely available and cheapest antipsychotic and remains a rational first choice for acute severe mania in resource-limited settings, where it may be supplemented by a benzodiazepine for agitation. Lithium is cheap, effective, and has the important additional benefit of anti-suicidal properties in the maintenance phase. Valproate (available as sodium valproate or valproic acid) is an alternative mood stabilizer with a somewhat different side effect profile, and its use requires attention to potential teratogenicity (valproate is contraindicated in women of childbearing potential without adequate

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contraception, given its association with neural tube defects and neurodevelopmental effects in children exposed in utero).

For bipolar depression, the management is more complex and more fraught with clinical and research controversy. The fundamental principle is that antidepressants should not be used as monotherapy for bipolar depression, and that their use in combination with a mood stabilizer requires careful consideration of the risk of switching and cycle acceleration. The agents with the strongest evidence for efficacy in bipolar depression include quetiapine (which has evidence as a monotherapy for bipolar depression), the olanzapine-fluoxetine combination, and lithium. Lamotrigine, an anticonvulsant with mood-stabilizing properties, has good evidence for the prevention of bipolar depressive episodes and is an important option in maintenance treatment, though its efficacy in acute bipolar depression is more modest and its introduction requires very slow titration to minimize the rare but serious risk of Stevens-Johnson syndrome (a severe skin reaction).

The 2024 Lancet Regional Health Europe review of bipolar disorder and the 2025 Frontiers in Psychiatry guidelines review both emphasize that bipolar depression remains the most therapeutically challenging phase of bipolar disorder, and that further evidence is needed to guide treatment choice. For Bangladesh clinicians, the practical management of bipolar depression must navigate between the risk of inadequate treatment (leaving a severely depressed patient untreated or under-treated, with all the associated functional and suicide risk consequences) and the risk of inappropriate treatment (antidepressant monotherapy that may worsen the course of illness).

Maintenance treatment, aimed at preventing future mood episodes, is the most important and most long-term phase of bipolar management. Lithium remains the gold standard for bipolar maintenance, with the strongest evidence of efficacy for the prevention of both manic and depressive recurrences, and with the unique additional benefit of reducing suicide risk. Valproate is an alternative for manic pole prevention, and lamotrigine is specifically effective for the prevention of depressive episodes. Atypical antipsychotics, particularly quetiapine and aripiprazole, have also demonstrated maintenance efficacy.

The monitoring requirements for lithium prescribing in Bangladesh present practical challenges. Therapeutic drug monitoring (serum lithium levels, with a therapeutic range of 0.6 to 1.2 mEq/L for maintenance and 0.8 to 1.2 mEq/L for acute mania) is essential for safe use, as the therapeutic window is narrow and toxicity can occur at serum levels only slightly above the therapeutic range. Regular monitoring of renal function (lithium is renally excreted and can cause nephrotoxicity with long-term use) and thyroid function (lithium frequently causes hypothyroidism) is also required. These monitoring requirements are more difficult to meet in rural and resource-limited settings, but they can be organized through district hospital laboratory services where available, and the importance of maintaining monitoring should be explicitly discussed with patients and families.

78.3 Psychosocial Interventions for Bipolar Disorder

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The psychosocial treatment of bipolar disorder has accumulated a significant evidence base in the past two decades, and several specific interventions have been shown in randomized controlled trials to reduce the risk of recurrence, improve inter-episode functioning, and improve quality of life.

Psychoeducation, the provision of systematic information about bipolar disorder, its course, its treatment, and strategies for self-management, is the most widely studied and most broadly applicable psychosocial intervention for bipolar disorder. Multiple randomized controlled trials have demonstrated that structured psychoeducation programs (typically delivered in group format over 8 to 21 sessions) significantly reduce the rate of recurrence compared to treatment as usual. The active ingredients of psychoeducation include improvement in illness recognition and insight, enhancement of medication adherence, development of relapse prevention strategies (including early identification of warning signs specific to the individual patient), regularization of daily routines and sleep-wake cycles, and modification of substance use and other risk behaviors.

Family-focused therapy (FFT), developed by David Miklowitz and colleagues, extends the psychoeducational approach to involve the patient's family as active participants in treatment. FFT addresses the high expressed emotion patterns in the families of bipolar patients, improves family communication, and develops shared strategies for identifying and managing early signs of relapse. FFT has been shown in randomized trials to reduce the rate of mood episode recurrence and to improve medication adherence. In the Bangladesh context, where the family is the primary support system and where the burden of caregiving falls heavily on family members, FFT represents a particularly relevant approach.

Social rhythm therapy (SRT), developed by Ellen Frank and colleagues, aims to stabilize the patient's circadian rhythms by regularizing the timing of key daily activities (sleep, meals, work, social activities). SRT is based on the social zeitgeber theory, which proposes that disruptions in social routines (arising from stressful life events) lead to disruptions in biological rhythms that can trigger mood episodes in vulnerable individuals. Several randomized trials have demonstrated the efficacy of SRT in reducing the rate of mood episode recurrence in bipolar disorder.

For Bangladesh, the challenge is to develop and implement these evidence-based psychosocial interventions in culturally adapted and resource-appropriate forms. Simplified psychoeducation programs that can be delivered by trained primary care workers or community health workers in group format are the most immediately scalable intervention. The Family Support Program for Bipolar Disorder (FSPBD), developed and piloted at NIMH Dhaka, represents an important local initiative in this direction and deserves further development and evaluation.

CHAPTER SEVENTY-NINE: SUICIDE AND SELF-HARM IN THE CONTEXT OF MOOD DISORDERS IN BANGLADESH

79.1 Suicide and Mood Disorders: The Clinical Connection

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The association between mood disorders and suicide is one of the most important facts in clinical psychiatry. Lifetime suicide risk in bipolar disorder is approximately 15 to 20 times the general population rate, and approximately 25 to 50 percent of patients with bipolar disorder make at least one suicide attempt during their lifetime. For major depressive disorder, the lifetime risk of suicide is approximately 4 to 6 percent in clinical samples (higher in treatment-resistant and hospitalized populations), and the risk of suicide attempt is substantially higher. Suicidal ideation is a core symptom of depression, present in a majority of patients at some point during a depressive episode. These figures make the assessment and management of suicide risk an absolutely central clinical skill in mood disorder management.

The epidemiology of suicide in Bangladesh is addressed in Chapter 5 and Chapter 70, particularly in relation to the specific vulnerability of young women in rural Bangladesh and the role of organophosphate pesticide ingestion as the predominant method. In the context of mood disorders specifically, several additional points deserve emphasis.

The highest suicide risk in bipolar disorder occurs during mixed states, in which features of depression (despair, hopelessness) coexist with features of mania (energy, impulsivity, and access to means). A patient who is highly impulsive by virtue of the energizing effects of mania and simultaneously despairing by virtue of the depressive component is in a uniquely dangerous clinical situation, and this mixed-state suicide risk is one of the most important clinical emergencies in psychiatric practice. The recognition of mixed features in a patient presenting with depression or agitation, and the appropriate adjustment of management (including hospitalization and the avoidance of antidepressant monotherapy, which can worsen mixed states), is a clinical priority.

Lithium's anti-suicidal effect, as noted in Chapter 72, is unique among mood stabilizers and indeed among psychiatric medications. Multiple meta-analyses and large observational studies have confirmed that long-term lithium treatment reduces the rate of completed suicide in both unipolar depression and bipolar disorder to rates approaching the general population. This effect appears to be independent of lithium's mood-stabilizing properties and may reflect its specific effects on serotonin neurotransmission and on impulsive aggression. The implication for clinical practice is clear: for patients with recurrent mood disorders and significant suicide risk, lithium should be considered the preferred maintenance treatment.

79.2 Deliberate Self-Harm in Bangladesh: Cultural Contexts and Clinical Management

Deliberate self-harm (DSH, also called non-suicidal self-injury in much of the North American literature) refers to intentional self-inflicted injury without suicidal intent, and needs to be distinguished from suicidal behavior, though the distinction is not always clinically straightforward and the two often co-occur. DSH in Bangladesh presents with a specific character that reflects local cultural and social contexts.

Deliberate self-harm in Bangladesh is predominantly carried out by young women, often in the context of acute interpersonal conflict. The behavioral pattern is of acute impulsive self-injury (commonly ingestion of poisons or medications, or cutting) following an explosive interpersonal situation, often involving marital conflict, dowry harassment, conflict with in-laws, or sexual

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violence. The self-injury may be communicated (performed in the presence of others or with the clear intention of being discovered) and may serve a communicative function, expressing unbearable distress and demonstrating the extremity of the situation in a cultural context where direct verbal expression of emotional distress by women is discouraged.

The management of deliberate self-harm in Bangladesh requires attention to both the acute medical management (treatment of injuries and of poisoning, which requires good knowledge of the medical toxicology of the relevant agents, particularly organophosphate pesticides and common household poisons) and the psychosocial context. The World Health Organization LIVE LIFE program and the mhGAP guidelines for the management of self-harm emphasize the importance of means restriction (reducing access to the agents most commonly used in self-harm, particularly pesticides), psychosocial follow-up after a self-harm episode, and the treatment of underlying psychiatric disorders. The Safe Messaging guidelines for media reporting of suicide are also relevant in Bangladesh, given the potential for contagion effects following high-profile suicide reports in the media.

CHAPTER EIGHTY: PHILOSOPHICAL, ETHICAL, AND PUBLIC HEALTH ANALYSIS OF MOOD DISORDERS IN BANGLADESH

80.1 Philosophical Reflections on Mood Disorders: What Depression and Mania Tell Us About Being Human

The philosophical significance of mood disorders exceeds their clinical importance, profound though that clinical importance is. Depression and mania illuminate, by disrupting, some of the most fundamental features of human existence: the relationship between self and world, the nature of motivation and meaning, the relationship between thought and emotion, and the experience of time.

The philosopher Matthew Ratcliffe, in his 2015 book "Experiences of Depression: A Study in Phenomenology," argues that depression is not simply an alteration of mood in the ordinary sense but a transformation of what he calls the "existential feelings" that normally constitute the background against which all experience occurs. What is disrupted in depression is not simply the quality of experience but its structure: the sense of possibilities that normally presents the world as open, inviting, and navigable. In depression, the field of possibilities contracts or closes: the person does not simply feel sad about the possibilities they see, but sees no possibilities. The future is experienced not as open but as foreclosed.

This phenomenological account of depression connects to the most fundamental questions about what it means to be a temporal being who lives toward a future and derives meaning from projects and commitments. Depression, in this view, is a disorder not merely of mood but of temporality: the person is cut off from the future-oriented structure of human existence. The experience of time in depression is characteristically of an eternal, unchanging present of suffering that seems as though it will never change and has always been.

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Mania, conversely, represents an expansion of temporality to the point of unmanageability: the manic person is swept forward into an accelerating, proliferating future of projects and possibilities, unable to consolidate or complete any of them, experiencing time as rushing by too quickly to inhabit. The grandiosity of mania is not simply a false belief about one's importance but a disruption of the ordinary sense of one's scale and significance in the world: the manic person experiences themselves as uniquely important, uniquely connected to the forces that matter, uniquely called to action.

These phenomenological descriptions are not merely philosophical curiosities; they have clinical significance. They suggest that depression and mania need to be understood not only as collections of symptoms but as total transformations of the person's way of inhabiting the world. This understanding has implications for how we assess patients (by attending to the quality and structure of their experience rather than simply counting symptoms), for how we explain their condition to them and their families (by connecting the biological language of neurotransmitters and brain circuits to the lived experience of temporal disruption and loss of possibility), and for how we think about recovery (not simply as symptom resolution but as the gradual restoration of a livable relationship to the world, to time, and to one's own possibilities).

80.2 The Ethics of Treating Mood Disorders: Autonomy, Beneficence, and Justice

The ethics of treating mood disorders in Bangladesh involves several specific tensions that deserve explicit attention.

The tension between autonomy and beneficence is particularly acute in mood disorders because the conditions themselves impair the very capacities that autonomy requires. The acutely depressed person may refuse treatment on the grounds that they are not worth treating, that nothing will help, or that they deserve to suffer, all of which are symptoms of the depression rather than genuine expressions of autonomous preference. The acutely manic person may refuse treatment because they do not believe they are ill, because they are enjoying the manic state, or because the elevated mood and impaired judgment of mania produce a characteristic lack of insight. The ethical response to these situations requires both genuine respect for the patient's expressed preferences and an honest recognition that those preferences are being expressed under conditions of severe impairment.

In Bangladesh, the ethical framework for treatment decisions in people with mood disorders is complicated by several contextual factors. The family's role in treatment decision-making is much more prominent in Bangladeshi culture than in the individualistic frameworks that underlie much Western bioethics. Family members commonly speak on behalf of the patient, make treatment decisions for them, and expect to be involved in all aspects of clinical care. This family involvement can be genuinely helpful, particularly when the patient's insight and decision-making capacity are impaired, but it can also conflict with the patient's expressed preferences and can enable the overriding of genuine autonomous patient choices in the name of family authority.

The Bangladesh Mental Health Act 2018 provides some legal framework for the management of these tensions but leaves many important questions unresolved. The Act permits involuntary

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admission and treatment under specified circumstances, including when the person is a danger to themselves or others and lacks insight into their condition. However, the procedural safeguards for involuntary treatment in the Act are weaker than those required by international human rights standards, and the implementation of even these limited safeguards is inconsistent across facilities.

80.3 The Public Health Analysis: Making Depression Visible

From a public health perspective, the most important insight about mood disorders in Bangladesh is that the problem is known, the treatments are available, the barriers are identifiable, and the solutions are implementable. What is lacking is not knowledge but political will and financial commitment.

The Global Burden of Disease data consistently places depressive disorders among the top causes of disability in Bangladesh. The treatment gap exceeds 90 percent for depression in the 2025 BMC Psychiatry analysis. The economic consequences of untreated depression, in terms of lost productivity, increased medical utilization, impaired child development, and reduced educational achievement, are enormous and have been estimated to substantially exceed the costs of providing adequate treatment. The argument for investment in depression treatment and prevention in Bangladesh is therefore not only humanitarian but economic.

The most efficient public health strategy for reducing the burden of depression in Bangladesh combines several complementary elements. Primary prevention, addressing the social determinants of depression through economic development, gender equity promotion, violence prevention (particularly IPV), and social protection programs, is the most population-level effective strategy but the most complex and longest-term. Secondary prevention, through the scaling of community-based identification and treatment of depression in primary care and community settings using the task-sharing approach, addresses the enormous treatment gap more immediately. Tertiary prevention, through the provision of adequate follow-up care and rehabilitation for people with severe and recurrent depression, prevents chronicity and reduces the burden of severe illness.

The specific public health priorities for mood disorders in Bangladesh, as of 2025 to 2026, include the following. First, the systematic integration of depression screening and treatment into the existing platforms of primary health care, antenatal care, and chronic disease management programs. Second, the scaling of training for primary care workers and community health workers in depression recognition and evidence-based management, using the mhGAP framework as the practical guide. Third, the development and implementation of a national suicide prevention strategy that addresses the specific epidemiological features of suicide in Bangladesh (the predominance of young women, the use of pesticides, the role of intimate partner violence). Fourth, the strengthening of mental health information systems to generate reliable data on the prevalence, treatment, and outcomes of mood disorders at the district and national level. Fifth, the sustained investment in mental health research by Bangladeshi researchers to generate locally relevant evidence that can guide policy and practice.

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CHAPTER EIGHTY-ONE: COMPREHENSIVE CASE STUDIES FOR PART SIX

Case Study 81.1: Recognizing Depression Behind a Somatic Presentation

Rabeya, a 32-year-old woman from Narsingdi district, presents to the outpatient department of the district hospital complaining of persistent headache for the past three months, generalized weakness, palpitations, and loss of appetite. She has seen a village doctor who prescribed iron tablets and B vitamins, and has visited a local kabiraj who performed a cleansing ritual and attributed her symptoms to the evil eye of a neighbor. Neither intervention provided lasting relief.

On physical examination, the physician finds no abnormality. Basic investigations including hemoglobin, blood glucose, and thyroid function are within normal limits. The physician is about to discharge her with a repeat prescription of iron when a nurse who has received mhGAP training suggests administering the PHQ-2.

Rabeya scores 3 on the PHQ-2 (maximum 6), with a positive response to both items: nearly every day over the past two weeks she has felt little interest or pleasure in doing things, and she has felt down, depressed, or hopeless. Subsequent administration of the PHQ-9 yields a score of 18 (moderately severe depression), with prominent anhedonia, early morning awakening, fatigue, loss of appetite with weight loss of 5 kg over three months, poor concentration, and passive suicidal ideation (she reports thinking that "it would be better if Allah took me").

Careful history-taking reveals that Rabeya's symptoms began following a period of intensified harassment from her mother-in-law about the size of her dowry and criticism of her housekeeping. Her husband has been largely absent, working in Dhaka, and has been dismissive of her complaints when she has tried to communicate her distress to him during his visits. She has had one previous episode of what sounds like depression following her first delivery, from which she recovered after six months without formal treatment.

This case illustrates several key principles. First, the somatic presentation of depression in Bangladesh is the rule, not the exception, and active screening with validated instruments is required to detect it. Second, the explanatory models held by the patient (evil eye) and the family are not obstacles to engagement but entry points for a respectful therapeutic conversation. Third, the passive suicidal ideation requires systematic assessment and must not be dismissed. Fourth, the psychosocial context (dowry harassment, marital conflict, absence of husband, history of perinatal depression) is directly relevant to both the etiology and the management of the condition. Fifth, the management plan must address both the pharmacological treatment (sertraline is initiated at 50 mg daily, with a plan to increase to 100 mg after two weeks if tolerated) and the psychosocial context (supportive counseling, identification of social supports, safety planning for the passive suicidal ideation, and a plan for husband involvement when he next visits).

At six-week follow-up, Rabeya's PHQ-9 score has fallen to 8, she has re-engaged with cooking and social activities in her mohalla, and the suicidal ideation has resolved. She reports feeling more able to cope with the difficulties in her marriage, though the underlying marital conflict

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remains unresolved. The clinical challenge now is to maintain treatment for an adequate duration to prevent relapse (at least 6 to 12 months) and to develop a plan for addressing the ongoing psychosocial stressors.

Case Study 81.2: Bipolar Disorder Presenting as Repeated Depressive Episodes

Rafiqul Islam, a 38-year-old schoolteacher from Sylhet, presents to a psychiatry outpatient clinic with his third episode of severe depression in twelve years. His previous episodes, both treated with antidepressants by a general practitioner, resolved after approximately four to six months of treatment. He is now presenting with a four-month history of profound low mood, complete anhedonia, hypersomnia (sleeping 12 to 14 hours daily), psychomotor retardation (slow speech, difficulty initiating movement), and hopelessness. He has stopped going to work.

The resident psychiatrist, following the mhGAP protocol, administers the PHQ-9 (score 22, severe depression) and initiates the assessment for treatment. Before prescribing an antidepressant, the supervisor asks whether a full mood history has been taken. When the resident takes a more detailed history, Rafiqul describes two periods, each lasting approximately two to three weeks, when he felt "very different" from his usual self: he slept only four to five hours without feeling tired, felt his mind was "racing" with creative ideas, was very energetic and productive at work (during one episode he completed a book manuscript that he had been unable to write for years), spent more money than usual (including purchasing an expensive piece of land that he later regretted), and felt that the world was somehow newly vibrant and connected. His wife independently confirms these descriptions, adding that during these periods Rafiqul was irritable and dismissive of her concerns. Neither Rafiqul nor his wife had ever connected these episodes to his depression, regarding them as simply periods of good functioning.

The clinical picture is now more consistent with bipolar II disorder (major depressive episodes with hypomanic episodes that have not caused significant impairment, have not required hospitalization, and have not been associated with psychotic features) than with unipolar depression. This diagnosis has several immediate clinical implications. The antidepressant that the resident was about to prescribe should not be initiated as monotherapy, as it carries the risk of inducing a hypomanic or manic episode. A mood stabilizer should be the primary pharmacological treatment. Lamotrigine is a particularly appropriate choice for bipolar II disorder given its established efficacy in preventing bipolar depressive episodes (the dominant pole in bipolar II), its tolerability, and its safety in the long-term. Psychoeducation about the nature of bipolar II disorder, including the importance of recognizing and reporting hypomanic symptoms in the future, is an essential component of the management plan.

This case illustrates the critical importance of a full mood history, including a systematic inquiry for hypomanic symptoms, in all patients presenting with depression. The failure to make the correct diagnosis has clinical consequences not only for the current episode (inadequate treatment) but for the patient's long-term illness course.

Case Study 81.3: Acute Mania with Religious Grandiosity

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Shahida Begum, a 28-year-old married woman from a well-educated Dhaka family, is brought to the emergency department by her husband and parents-in-law. She has been increasingly "strange" for the past two weeks: she is sleeping only two to three hours a night but is full of energy, has been telling family members that she has been receiving divine guidance that she is to start a religious school and has the blessing of several prominent Sufi saints whom she has been calling by telephone, has spent a substantial sum of the family's savings on religious books and materials without consulting her husband, and has been holding late-night prayer sessions in her apartment that have disturbed the neighbors.

In the emergency department, Shahida is energetic, loud, and irritable when her husband interrupts her. Her speech is rapid and difficult to interrupt. She says that she has never felt better in her life and that the doctors and her family need to understand that she is being called to an important mission. She denies that anything is wrong with her and resists examination.

The clinical picture is consistent with a manic episode with grandiose delusions (the divine mission) and possible ideas of reference (the communications from saints). The differential diagnosis must include an acute psychotic disorder, and the distinction between a primary psychotic disorder and a manic episode with psychotic features requires careful attention to the mood component (clearly elevated and then irritable when her plans are frustrated), the onset and course (acute onset over two weeks, with a clear change from a normally functioning baseline), the family history (her father has a history of what sounds like a manic episode in his forties), and the presence of mood-congruent psychotic features (the grandiose delusions are consistent with the elevated mood rather than with the persecutory or disorganized themes more typical of schizophrenia spectrum disorders).

Management in the acute phase requires rapid behavioral control (olanzapine 10 mg is initiated, with lorazepam 1 to 2 mg available for acute agitation), initiation of a mood stabilizer (lithium is started after baseline blood tests), and a careful plan for communicating with the family about the nature of the diagnosis and the treatment plan. The religious content of the manic episode requires sensitive handling: the family needs to understand that the religious themes are symptoms of the illness rather than genuine spiritual experiences, but this message must be communicated with cultural sensitivity and without dismissing the family's religious framework.

Shahida's clinical course over the subsequent three weeks shows gradual resolution of the manic symptoms with antipsychotic and mood stabilizer treatment. As she emerges from the manic episode, she experiences profound shame and distress about her behavior during the episode, including the money she spent and the relationships she strained. This post-manic shame is an important clinical challenge: it requires supportive engagement, psychoeducation that frames her behavior as a symptom of illness rather than a reflection of her character, and attention to the risk of a post-manic depressive episode that is very common in the immediate aftermath of mania.

Case Study 81.4: Treatment-Resistant Depression and the Role of Lithium Augmentation

Dr. Hossain Alamgir, a 52-year-old male physician from Rajshahi, has been experiencing a severe depressive episode for eight months. He has received two prior antidepressant trials:

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sertraline up to 200 mg daily for eight weeks (without response) and escitalopram up to 20 mg daily for ten weeks (partial response with residual moderate depressive symptoms). He has been unable to work for six months. He denies any history of hypomanic or manic episodes. His PHQ-9 score is 18 despite being on escitalopram. He has no clear neurovegetative features that would point strongly toward a melancholic subtype, but he has significant anhedonia, early morning awakening, and cognitive impairment that affects his ability to concentrate and read.

The clinical situation meets criteria for treatment-resistant depression: failure to respond adequately to two antidepressant trials of different classes at adequate doses for adequate duration. The options at this stage include augmentation of the current antidepressant, switching to a different class, referral for ECT, or specialist review. Given the patient's partial response to escitalopram and the absence of absolute contraindications to lithium, lithium augmentation is selected as the next step.

Lithium is started at 400 mg at night, with a plan to increase to 600 mg and then 800 mg at two-weekly intervals guided by serum lithium levels (targeting 0.6 to 0.8 mEq/L for augmentation). Baseline investigations are performed, including renal function tests, thyroid function tests, and ECG. The patient is carefully counseled about lithium toxicity, its symptoms, the importance of maintaining adequate fluid intake, and the need to avoid NSAIDs (which can increase lithium levels). He is given a lithium information card.

After six weeks on lithium augmentation (at a dose producing a serum level of 0.7 mEq/L), Dr. Hossain's PHQ-9 has fallen to 8 (mild depression) and he has been able to return to part-time clinical work. He continues to experience some residual symptoms, and a plan for continued augmentation for at least twelve months is made, along with a referral for CBT to address residual cognitive symptoms and prevent relapse.

This case illustrates the practical application of lithium augmentation for treatment-resistant depression in the Bangladesh context, including the importance of adequate dosing, proper monitoring, and comprehensive patient education.

Case Study 81.5: Perinatal Depression in a Rural Setting

Moriam Khatun, a 24-year-old woman in Netrokona district, is visited by a shasthya shebika (community health worker) at six weeks postpartum as part of a postnatal care visit. The shasthya shebika administers the Bengali-language EPDS and finds a score of 14 (above the screening threshold of 10), with particular prominence of feelings of hopelessness, difficulty coping, and thoughts of self-harm (she endorses the item about "the thought of harming myself has occurred to me" and says this has happened "hardly ever").

The shasthya shebika, who has received training in the Thinking Healthy Program and in mhGAP basic concepts, records the EPDS score, expresses empathy to Moriam, and discusses the finding with her supervisor at the upazila health complex that afternoon. The supervisor arranges a home visit by the upazila physician two days later.

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The physician finds Moriam to be profoundly fatigued, disengaged from her infant (the shasthya shebika has noticed that Moriam rarely holds the baby, who is being cared for primarily by the mother-in-law), tearful, and expressing hopelessness about her situation. She has lost more than her pregnancy weight and is not eating adequately. The delivery of her second daughter (when the family had expected a son) had been met with disappointment by her husband and mother-in-law, and Moriam has felt increasingly isolated and blamed. The thought of harming herself is present but she has no specific plan and has not acted on it.

The physician diagnoses moderate perinatal depression with passive suicidal ideation and initiates a safety plan (identifying a trusted family member, which Moriam identifies as her own mother who lives in a nearby village, as the person to contact if her thoughts of self-harm worsen, and giving her the Kaan Pete Roi helpline number). The physician also begins the Thinking Healthy Program, which the shasthya shebika has been trained to deliver, and prescribes sertraline 50 mg daily (the safety profile of sertraline in breastfeeding is acceptable, and the physician discusses the balance of risks and benefits explicitly with Moriam). A plan is made for the mother-in-law to be included in a subsequent educational session about postnatal depression.

At eight-week follow-up, Moriam's EPDS score has fallen to 7, she is breastfeeding and engaging with her infant more actively, and she reports feeling more connected to her daughter. The suicidal ideation has resolved. The social stressors (family disappointment about the infant's sex, the isolation) remain but are somewhat moderated by the family's increased understanding of Moriam's condition, which the THP sessions have helped to promote.

CHAPTER EIGHTY-TWO: SUMMARY AND INTEGRATION; CONNECTIONS TO PART SEVEN

82.1 Key Themes from Part Six

Part Six has provided a comprehensive examination of mood disorders, encompassing both depressive disorders and bipolar spectrum conditions, through the integrated lens of clinical medicine, neurobiology, epidemiology, cultural analysis, pharmacology, psychotherapy, public health, and philosophy. The following key themes merit consolidation as this Part concludes.

Depression and bipolar disorder are not weaknesses of character, failures of faith, or personal failures: they are genuine medical conditions with identifiable neurobiological substrates, measurable epidemiological patterns, established risk factors, and effective treatments. The neuroscience of mood disorders, reviewed in Chapter 68, has advanced dramatically in the past two decades, illuminating the roles of monoamine systems, neuroplasticity and BDNF, HPA axis dysregulation, inflammatory processes, glutamatergic neurotransmission, and circadian biology in the pathogenesis of these conditions. While a complete biological account remains elusive, the accumulated evidence is more than sufficient to establish the legitimacy of mood disorders as medical conditions deserving medical treatment and social respect.

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The clinical presentation of depression in Bangladesh is predominantly somatic, and the failure to recognize this systematically leads to an enormous diagnostic and treatment gap. The PHQ-9 and PHQ-2, validated in Bengali, provide practical and effective tools for identifying depression in primary care and community settings. Systematic use of these tools in antenatal care, chronic disease management, and general primary care would substantially improve case detection. The integration of mhGAP-based training for primary care physicians, nurses, and community health workers is the most important structural intervention for improving recognition and treatment of depression in Bangladesh.

The social determinants of depression, particularly poverty, gender inequality, intimate partner violence, and the specific vulnerabilities of women in the perinatal period, are not tangential to clinical practice but central to it. Clinical interventions that treat depression without addressing the social conditions that generated and sustain it will have limited and short-lived effects. A comprehensive public health approach to depression in Bangladesh must address these upstream determinants through gender equity promotion, violence prevention, social protection, and economic development, while simultaneously addressing the treatment gap through expanded and better-trained clinical services.

Bipolar disorder in Bangladesh is substantially underdiagnosed, with the most common error being the diagnosis of unipolar depression in patients who actually have bipolar depression or bipolar II disorder. The consequences of this error, particularly the initiation of antidepressant monotherapy, can worsen the course of illness and increase suicide risk. Systematic inquiry for hypomanic history in all patients presenting with depression, using instruments such as the HCL-32 or the MDQ alongside careful clinical history-taking, is an essential clinical practice.

The pharmacological management of mood disorders in Bangladesh must navigate between evidence-based recommendations and resource constraints. SSRIs, particularly fluoxetine and sertraline, are the preferred first-line treatment for major depression and are available and affordable in Bangladesh. Lithium, despite its monitoring requirements, is available and cheap, and represents an essential element of bipolar disorder management. Valproate and lamotrigine are important additions to the mood stabilizer armamentarium. The novel antidepressants and neuromodulation approaches reviewed in Chapter 72 and 73 are important developments that are likely to become progressively more accessible in Bangladesh over the coming decade.

Psychological treatments, particularly CBT, behavioral activation, interpersonal psychotherapy, and psychoeducation for bipolar disorder, have strong evidence bases and are applicable in Bangladesh with appropriate cultural adaptation and task-sharing delivery. The training and deployment of community health workers in simplified, culturally adapted psychological interventions for depression is one of the most important strategic opportunities for mental health system development in Bangladesh.

Perinatal depression is among the most prevalent, most consequential, and most treatable mental health problems in Bangladesh, and its management through integration with existing maternal and child health services is both feasible and urgently needed. The Thinking Healthy Program and similar community health worker-delivered interventions offer a scalable approach to this enormous unmet need.

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Suicide and self-harm, driven overwhelmingly by mood disorders, constitute a major public health crisis in Bangladesh, particularly for young women in rural settings. A comprehensive national suicide prevention strategy addressing means restriction (particularly pesticide availability), IPV prevention, help-seeking behavior, and the treatment of underlying depression is urgently needed.

82.2 Philosophical and Public Health Reflections

The philosophical significance of mood disorders, as explored in Chapter 80, lies in what they reveal about the structure of human existence: the way that the temporal horizon of possibility that normally makes life livable can contract into the foreclosed present of depression, or expand into the uncontrollable rush of mania. To understand depression and bipolar disorder at this depth is to understand something fundamental about what it means to be a person, and to treat them well is to restore something fundamental: the patient's access to their own possible futures.

From a public health perspective, the key message of this Part is a simple but important one: millions of Bangladeshis are suffering from conditions that are diagnosable and treatable, and the suffering is not inevitable. The treatment gap for depression in Bangladesh exceeds 90 percent. This means that for every ten people with depression in Bangladesh, nine receive no care at all. This is not a matter of ignorance about what to do; the effective interventions are known. It is a matter of political priority, resource allocation, and the organized delivery of services at scale. The argument of this textbook, and of this Part in particular, is that this is a solvable problem, and that solving it is both a medical and a moral imperative.

82.3 Preview of Part Seven

Part Seven will turn to the neurodevelopmental disorders: autism spectrum disorder, attention deficit hyperactivity disorder, intellectual developmental disorder, and related conditions. These are conditions that arise from disruptions in the process of brain development and that produce characteristic patterns of cognitive, behavioral, and social impairment that persist across the lifespan. They are conditions that are in many ways even more challenging than the mood disorders in terms of clinical recognition (particularly in a context of limited specialist assessment capacity), cultural understanding (where neurodevelopmental difference is often attributed to spirit possession, to divine curse, or to family sin), and service provision (where the specialized educational, behavioral, and rehabilitative services required are almost entirely absent outside the capital). The Bangladesh perspective on neurodevelopmental disorders is one that will require both clinical knowledge and a profound commitment to the rights and dignity of the individuals and families affected.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART SIX

Vignette 1: *A 40-year-old woman presents to a primary care physician with a six-month history of persistent fatigue, weakness, multiple somatic complaints, and what she describes as "not feeling like doing anything." Her PHQ-9 score is 12. She has hypothyroidism on thyroxine*

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replacement with a recent TSH of 3.5 mIU/L. Describe how you would approach the differential diagnosis, taking into account both the thyroid disease and the depression. What investigations would you perform? How would you decide whether to adjust the thyroxine dose, treat the depression, or do both? What are the arguments for each approach?

Vignette 2: *A 26-year-old male university student presents with a two-month history of depressed mood, anhedonia, excessive sleeping, and significantly reduced academic performance. His elder sister has bipolar II disorder. When specifically asked, the student recalls a three-week period last year when he "barely slept but felt amazing" and completed six months of thesis work in that period, behaviors he attributed to "finally finding my rhythm." How would you assess whether this presentation is more consistent with major depressive disorder or bipolar II disorder? What clinical features would most influence your diagnostic judgment? How does the family history affect your assessment? What would be the implications of each diagnosis for pharmacological treatment?*

Vignette 3: *A 22-year-old woman is brought to the emergency department by her husband after she ingested an unknown number of her mother-in-law's sleeping tablets following an argument about dowry. She is mildly drowsy but rousable and denies ongoing suicidal intent, saying she only wanted to "make them understand how I feel." Her PHQ-9 score, administered on the ward the following morning after she is medically stable, is 16. Describe the immediate management approach, including medical, psychiatric, and psychosocial dimensions. How would you assess ongoing suicide risk? What are the key features of a safety plan for this patient? What are the systemic factors that contribute to her risk, and how might they be addressed in the management plan?*

Vignette 4: *A 60-year-old retired civil servant presents to your clinic with a two-year history of what his family describes as increasing withdrawal, forgetfulness, lack of interest in activities he previously enjoyed, poor appetite, and early morning awakening. He attributes these symptoms to "old age." On cognitive testing, he performs below age-expectation on tests of concentration, processing speed, and working memory, but his recall is relatively preserved. His PHQ-9 score is 14. His MMSE is 25/30. Describe how you would approach the differential diagnosis between late-life depression with pseudodementia and early Alzheimer's disease or vascular dementia. What investigations would you request? How would a definitive diagnosis affect your management? What are the clinical features that most favor depression over primary dementia in this presentation?*

Vignette 5: *You are working as a medical officer at an upazila health complex in Barguna district. A shasthya shebika brings a pregnant woman (30 weeks gestation) to your attention because the woman's EPDS score is 15. The woman, Nasreen, is 19 years old, married at 14, and has experienced physical violence from her husband throughout the pregnancy. She has no social support other than her husband's family, who are hostile to her. She has told the shasthya shebika that she sometimes thinks of harming herself but would not do so because of the baby. Using the mhGAP approach, describe how you would assess and manage Nasreen. What are the safety considerations? What psychological and pharmacological interventions are appropriate in pregnancy? What referral pathways would you consider? What systemic or structural interventions should be pursued beyond the immediate clinical encounter?*

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STUDY QUESTIONS FOR PART SIX

Describe the five major neurobiological hypotheses of major depressive disorder reviewed in Chapter 68. For each hypothesis, summarize the key evidence supporting it, its limitations as a complete explanation of depression pathogenesis, and its implications for the development of new treatments. How do these hypotheses relate to each other, and what integrated picture of depression neurobiology emerges from considering them together?

A 30-year-old woman presents with moderate major depressive disorder (PHQ-9 score of 15). She is 12 weeks pregnant and has declined antidepressant medication because of concerns about the effect on her baby. She has a history of one previous severe depressive episode that required hospitalization. Construct a comprehensive, evidence-based management plan for this patient. Specifically address: the evidence on the risks of antidepressant use in pregnancy versus the risks of untreated depression; the psychological interventions available; the role of the obstetric team; the safety planning considerations; and the plan for management in the immediate postpartum period.

Critically evaluate the bipolar spectrum concept. What is the evidence supporting the view that there is a continuous spectrum of bipolarity from unipolar depression to bipolar I disorder? What are the clinical implications of adopting a spectrum perspective, particularly for patients presenting with depression who have soft bipolar features? What are the risks of over-diagnosis of bipolar disorder, and how should the clinician balance these risks against the risks of missing a bipolar diagnosis?

Discuss the epidemiology of suicide and self-harm in Bangladesh. What are the key epidemiological features of suicide in Bangladesh that distinguish it from suicide in high-income countries? What are the principal risk factors, and how do mood disorders relate to them? Describe the components of a comprehensive suicide prevention strategy for Bangladesh that addresses the specific epidemiological features you have identified. What is the evidence base for each component?

Explain the concept of treatment-resistant depression (TRD) and its prevalence. A 45-year-old man with major depressive disorder has not responded adequately to two adequate antidepressant trials (sertraline 200 mg for 8 weeks and escitalopram 20 mg for 10 weeks). Describe your approach to evaluating this situation systematically, including review of prior trial adequacy, reassessment of diagnosis (including possible unrecognized bipolar disorder, comorbid medical conditions, and substance use), and assessment of contributing psychosocial factors. What are the evidence-based pharmacological options for the next step in management, and what are the criteria for considering ECT?

Describe the cultural dimensions of depression in Bangladesh, with specific reference to: the somatic presentation of depression, the local idioms of distress relevant to depressive experience, the explanatory models commonly held by patients and families, and the help-seeking pathways through which Bangladeshis with depression typically access care. How

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should these cultural dimensions inform the clinical approach to assessing and managing depression? What specific adaptations to standard CBT-based approaches are needed to make them culturally appropriate for Bangladeshi patients?

Compare and contrast the pharmacological management of bipolar I mania and bipolar I depression. For each phase, describe the first-line pharmacological approach, the evidence base for the treatments recommended, and the specific clinical challenges in the Bangladesh context. Why is the management of bipolar depression particularly challenging, and what are the specific risks of antidepressant monotherapy in bipolar depression? How do these risks inform the management approach?

Analyze the epidemiology of perinatal depression in Bangladesh, including its prevalence, its specific risk factors, and its consequences for maternal and infant health. Describe the components of a comprehensive approach to addressing perinatal depression within the existing primary and community health care system of Bangladesh, from screening through treatment and follow-up. What is the Thinking Healthy Program, and what evidence supports its use in Bangladesh? What are the barriers to implementing such a program at scale, and how might they be addressed?

Describe the philosophical account of depression offered by phenomenological psychiatry, particularly Ratcliffe's concept of disrupted existential feelings and the disturbance of temporal experience. How does this account complement and enrich the biomedical and psychological accounts of depression? What clinical implications does the phenomenological perspective have for how the clinician engages with the depressed patient and for how recovery is conceptualized?

Discuss the public health analysis of the depression treatment gap in Bangladesh. What are the major barriers to care at the individual, family, community, health system, and policy levels? What are the most cost-effective interventions for closing the treatment gap? How should the public health response to depression be integrated with broader social interventions addressing gender inequality, poverty, and violence prevention?

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Editorial Note to Part Six:

Part Six has traversed the most prevalent territory in all of psychiatry: the landscape of human mood in its most devastating disturbances. Depression, in Bangladesh as everywhere, is a condition of extraordinary clinical importance and extraordinary social neglect. The 90 percent treatment gap documented in the most recent national survey is not a statistic to be read and forgotten; it represents millions of individual human beings, overwhelmingly women, experiencing conditions of profound and treatable suffering in silence, shame, and isolation. The purpose of the preceding chapters is not simply to convey information but to build the capacity and the commitment to change this situation, one patient at a time, one policy at a time, one community at a time.

Bipolar disorder, affecting a smaller but still enormous number of Bangladeshis, deserves equal attention and equal clinical skill. Its underdiagnosis, its inappropriate treatment, and its devastating consequences for individuals, families, and communities are not inevitable; they are the products of inadequate knowledge, inadequate services, and inadequate investment, all of which can be changed.

The authors acknowledge, with deep respect, the strength and resilience of Bangladeshi men and women who live with these conditions, often without any professional support, sustained by faith,

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family, and an extraordinary human capacity to endure. That endurance deserves to be met with something better than endurance alone: it deserves effective treatment, genuine understanding, and the kind of compassionate, skillful clinical engagement that this textbook is intended to support.

Part Seven awaits.

End of Part Six: Mood Disorders - Depressive Disorders and Bipolar Spectrum Conditions

PART SEVEN: NEURODEVELOPMENTAL DISORDERS

Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Intellectual Developmental Disorder, and Related Conditions: Clinical Science, Neurobiology, Cultural Context, and Practice in Bangladesh

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INTRODUCTORY NOTE TO PART SEVEN

Part Seven enters a domain of psychiatry and behavioral science that is simultaneously among the oldest in human experience and among the most rapidly evolving in contemporary research. The neurodevelopmental disorders are conditions that arise from disruptions or variations in the processes through which the human brain develops from conception through childhood and adolescence. Their effects are not confined to any single phase of life; they shape cognition, behavior, social functioning, and identity across the entire lifespan of the individual. They are conditions that challenge, more profoundly perhaps than any other group of psychiatric disorders, the boundaries between difference and disorder, between neurodiversity and pathology, between the need for therapeutic support and the imperative to respect the fundamental humanity of people whose brains work differently.

In Bangladesh, neurodevelopmental disorders carry a particular weight. They are conditions that are frequently misunderstood, attributed to supernatural causes, and responded to through exclusion rather than support. The child who cannot speak, who does not make eye contact, who lines up objects and screams when routines are disrupted, who cannot learn to read despite apparent intelligence, or who cannot sit still in a classroom is, in too many Bangladeshi communities, a source of shame rather than a person with specific and addressable needs. The family of such a child navigates a landscape almost entirely devoid of specialist services, adequate educational provision, or social support structures designed for their situation. The clinician who encounters such a child in a primary care setting or a district hospital often has limited training, limited diagnostic tools, and limited referral options.

Yet Bangladesh is not without resources for addressing neurodevelopmental disorders. The country has developed significant political commitment to autism, particularly following the

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advocacy of the families of prominent figures and the establishment of the Sheikh Hasina National Institute of Mental Health and the Autism Welfare Foundation. This advocacy has created some important services and generated significant public awareness, even if it has not yet produced the comprehensive, rights-based system of support that people with neurodevelopmental conditions and their families genuinely need.

This Part examines the neurodevelopmental disorders systematically and comprehensively. It begins with the foundations: the concept of neurodevelopmental disorder, the history of how these conditions have been understood, the neurobiology of brain development and its disruption, and the current state of classification under ICD-11 and DSM-5-TR. It then turns to each of the major neurodevelopmental disorder groups in turn: autism spectrum disorder, attention deficit hyperactivity disorder, intellectual developmental disorder, and the related conditions of specific learning disorders, communication disorders, motor development disorders, and tic disorders. For each condition, the Part provides a thorough account of the clinical features, the neurobiology, the epidemiology including Bangladesh-specific data, the assessment and diagnostic process, the evidence-based and culturally adapted interventions, and the public health challenges and opportunities. The Part concludes with chapters on philosophical and ethical dimensions, on controversies that are genuinely live in contemporary research and clinical practice, on comprehensive case studies from Bangladeshi clinical contexts, and on connections to the Parts that follow.

Throughout, the reader will find that neurodevelopmental disorders illuminate some of the deepest and most important questions in psychiatry: what is normal development, and how do we distinguish deviation from it that represents a disorder requiring intervention from variation that represents simply human diversity? What does it mean to say that a brain is different rather than deficient? What are the rights of people whose minds work in ways that do not conform to neurotypical expectations? And how does a society organize itself to support all its members, whatever their cognitive and behavioral profile, in living meaningful and dignified lives? These are not only clinical questions. They are philosophical, ethical, and political ones, and this Part engages them as such.

CHAPTER EIGHTY-THREE: NEURODEVELOPMENTAL DISORDERS - FOUNDATIONS, CLASSIFICATION, AND CONCEPTUAL FRAMEWORKS

83.1 What Are Neurodevelopmental Disorders? Defining the Category

The term "neurodevelopmental disorder" is both a specific diagnostic category in modern psychiatric nosology and a broader conceptual framework for understanding a class of conditions that share particular features. In its most precise sense, as used in DSM-5-TR (2022) and ICD-11 (2019), a neurodevelopmental disorder is a condition that meets three defining criteria. First, it has its onset in the developmental period, typically early childhood, though its effects may not become fully apparent until the demands placed on the individual exceed their adaptive capacity, which may occur later in childhood, adolescence, or even adulthood. Second, it is characterized by developmental deficits, meaning that the individual fails to reach, or

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reaches only with great difficulty, the cognitive, behavioral, motor, or social milestones that are expected at their developmental stage. Third, these deficits produce impairments in personal, social, academic, or occupational functioning that go beyond what would be expected from cultural variation or limited opportunity.

The conditions that fall within this broad category share additional features that justify grouping them together. All of them reflect, in some way, disruptions in the processes through which the brain develops its structure and function during the prenatal period, infancy, childhood, and adolescence. All of them have significant genetic contributions, though the specific genetic mechanisms vary widely and most conditions involve complex interactions between many genes and environmental factors rather than simple single-gene inheritance. All of them involve some degree of heterogeneity, meaning that two individuals who receive the same diagnostic label may have very different profiles of strengths and difficulties. And all of them tend to be persistent, though the way in which they manifest may change substantially across the lifespan as development proceeds and as the individual acquires new skills and encounters new social demands.

The ICD-11 chapter on neurodevelopmental disorders includes the following major groupings: disorders of intellectual development (intellectual developmental disorder); autism spectrum disorder; attention deficit hyperactivity disorder; specific developmental disorders of speech and language; specific developmental disorders of scholastic skills; developmental motor coordination disorder; stereotyped movement disorder; primary tic disorders including Tourette syndrome; and a residual category of other neurodevelopmental disorders. DSM-5-TR uses a very similar structure, though with some terminological differences.

Two important features of this classification deserve special comment. First, the neurodevelopmental disorders group conditions that were historically treated as quite separate clinical entities, managed by different specialists, and understood through quite different theoretical frameworks. Intellectual disability was historically the province of institutions for "mental defectives," later of special education and social care. Autism was for a long time placed within the category of childhood psychosis. ADHD was classified at various times as a behavioral disorder, a learning disability, and a separate medical entity. The consolidation of these diverse conditions within a single neurodevelopmental framework reflects a growing understanding of their shared biological foundations and their frequent co-occurrence in the same individual. It does not mean that these conditions are identical or that their differences are unimportant; it means that their commonalities are sufficiently profound to warrant a shared conceptual framework.

Second, the ICD-11 and DSM-5-TR approaches to neurodevelopmental disorders represent an important shift away from earlier categorical thinking toward a more dimensional perspective. The recognition that autism, ADHD, and intellectual disability all exist on spectra of severity, that many individuals have features of more than one condition simultaneously (comorbidity), and that the boundaries between these conditions and normal variation are not sharp lines but gradients, reflects a more accurate understanding of the underlying biology than did the sharper categories of earlier classification systems. This dimensional approach has important implications for assessment and for the design of interventions.

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83.2 History of Understanding Neurodevelopmental Disorders

The history of how neurodevelopmental disorders have been understood is a complex and often troubling story, moving through phases of supernatural attribution, institutional confinement, medical classification, educational reform, rights-based advocacy, and neuroscientific investigation. Understanding this history is important not only as intellectual background but because its legacies shape clinical practice and social attitudes in Bangladesh today.

The experience of intellectual disability is recorded throughout human history. Ancient texts from Egypt, Greece, China, and India all describe conditions that we would today recognize as intellectual disability, though the frameworks through which these experiences were interpreted varied enormously. In some societies, people with intellectual disability were considered to be under divine protection, innocent and holy. In others, they were considered demonic or cursed. In most premodern societies, people with intellectual disability who were able to perform basic functional tasks lived within their families and communities, their differences accommodated within the social fabric. Those with profound disability, unable to care for themselves at all, might be cared for by families or, in some cases, abandoned or killed.

The history of autism is much shorter, because the category itself was not established until the twentieth century. The Austrian-American psychiatrist Leo Kanner published the first systematic description of what he called "early infantile autism" in 1943, based on eleven children at the Johns Hopkins Hospital who shared a characteristic pattern of aloneness, insistence on sameness, and precocity in certain areas. In the same year, and apparently independently, the Austrian pediatrician Hans Asperger described a group of children he called "autistic psychopaths," characterized by difficulties in social communication but with preserved language development and often remarkable abilities in restricted areas of interest. Asperger's work, published in German during the Second World War, was not widely known outside German-speaking countries until Lorna Wing's review and translation in 1981.

The subsequent history of autism is marked by some profound errors alongside genuine advances. Bruno Bettelheim's "refrigerator mother" theory, which attributed autism to cold and emotionally unavailable mothering, caused incalculable harm to the families of autistic children from the 1950s through the 1970s. Applied Behavior Analysis (ABA), introduced by Ole Ivar Lovaas in the 1970s, demonstrated that behavioral techniques could produce significant improvements in the functional skills of autistic children, but early versions of ABA were often coercive and based on a paradigm of making autistic people appear neurotypical rather than supporting their flourishing on their own terms. The theoretical dispute between psychogenic and biological models of autism was not fully resolved until the landmark twin studies of Michael Rutter and Susan Folstein in the 1970s, which demonstrated a high heritability for autism and effectively ended the era of parent-blaming theories.

The history of ADHD is also a twentieth-century story, though with earlier antecedents. George Still, a British pediatrician, described in 1902 a group of children who had what he called "defect of moral control," characterized by inattention, impulsivity, and behavioral dysregulation, which he attributed to biological rather than moral causes. The concept of "minimal brain dysfunction," which dominated thinking about ADHD-like presentations in the

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1950s and 1960s, reflected the then-prevalent view that these behavioral patterns resulted from subtle brain damage. The shift to the concept of ADHD, operationalized in DSM-III in 1980, moved away from speculative etiological theories toward descriptive, symptom-based criteria, and the subsequent DSM editions have refined this approach.

The story of how these disorders were understood and managed in the Bengal region and in what is now Bangladesh has received less scholarly attention but is no less important for the practitioners working in this context today. In pre-colonial Bengal, children who did not develop speech, who could not learn, who had unusual and repetitive behaviors, or who were profoundly dependent on others were typically understood within spiritual and supernatural frameworks. A child who did not speak might be described as "mute by divine will" or as having been afflicted by a malevolent spirit. A child with profound intellectual disability might be understood as a special soul deserving of family care and community protection. A child with severe behavioral dysregulation might be regarded as possessed.

These interpretive frameworks were not simply ignorance. They were culturally coherent attempts to make sense of experiences that were genuinely puzzling and distressing, and they embedded the child and their family within a community of meaning-making that, at its best, provided support rather than exclusion. At its worst, of course, these frameworks led to children being subjected to dangerous ritual practices, being kept in conditions of deprivation and restraint, or being used as objects of public curiosity.

The colonial period brought both the medicalization of these conditions and new forms of institutional response. British colonial administration established institutions for "idiots and imbeciles" in India that were primarily custodial and explicitly modeled on their counterparts in Britain, which were themselves far from therapeutic. The Education Act provisions that mandated special education for children with disabilities in Britain had no counterpart in colonial India, and the educational needs of children with intellectual disabilities or other neurodevelopmental conditions received essentially no official attention.

After independence in 1971, Bangladesh inherited a post-colonial health and education system that was deeply inadequate even for the general population, let alone for children with neurodevelopmental disabilities. The first dedicated services for children with intellectual disabilities were established by non-governmental organizations in the 1980s and 1990s. The Society for the Welfare of the Intellectually Disabled Bangladesh (SWID-B) and similar organizations provided a degree of care and advocacy, but their reach was limited to urban areas and a small fraction of the total population with need.

The transformation of attention to autism in Bangladesh in the twenty-first century is inextricably linked to the advocacy of Saima Wazed Hossain, the daughter of former Prime Minister Sheikh Hasina, who has become an internationally recognized advocate for autism awareness and has worked within both domestic and global health policy frameworks, including the WHO, to elevate the profile of autism as a public health priority. Her advocacy has resulted in significant policy commitments in Bangladesh, including the establishment of the National Academy for Autism and Neurodevelopmental Disorders, the Autism Resource Centre, and improved provisions for children with autism in education legislation. This is a genuinely

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important development, even as it must be acknowledged that advocacy linked to a single political figure and a single political family creates its own vulnerabilities, and that comprehensive progress will require institutionalization of supports that transcends any individual political context.

83.3 The Neurobiology of Brain Development: A Foundation for Understanding Neurodevelopmental Disorders

To understand neurodevelopmental disorders, one must first understand the extraordinary process of brain development itself. The human brain is built through a sequence of developmental processes that unfolds over many years, beginning within weeks of conception and continuing well into the third decade of life. The disruption of any of these processes, at any point in the developmental sequence, can produce characteristic patterns of cognitive, behavioral, and social impairment.

The earliest stages of brain development involve the formation of the neural tube from the embryonic ectoderm, a process that is essentially complete by the fourth week of gestation. Disruptions at this stage produce severe structural malformations of the brain and spinal cord. By the sixth week of gestation, neurogenesis has begun: neurons are being produced in the proliferative zones of the developing brain at an extraordinary rate, sometimes estimated at several hundred thousand per minute. The neurons produced in this phase must migrate from their birthplace to their ultimate location in the developing brain, a process guided by complex molecular signaling. Disruptions in neural migration produce conditions including lissencephaly (smooth brain) and heterotopia (neurons in the wrong location), which are typically associated with severe intellectual disability and epilepsy.

Once neurons reach their destinations, they undergo a process of differentiation: they develop the specific morphology and connections appropriate to their function. Axons grow from each neuron, guided by molecular signals and the activity of the developing neural network, toward their target cells. Synapses, the junctions through which neurons communicate with each other, are formed in vast numbers. The initial phase of synaptic development is characterized by overproduction: many more synapses are formed than will ultimately be maintained. This excess is subsequently pruned through a process of activity-dependent elimination in which synapses that are used are maintained and strengthened while those that are not used are eliminated. This pruning process, which continues through childhood and accelerates dramatically in adolescence, is critical for the efficient wiring of neural circuits. Evidence from postmortem brain studies and from neuroimaging suggests that defects in synaptic pruning may be relevant to the pathophysiology of both autism and schizophrenia.

Myelination, the process by which axons are wrapped in a fatty insulating sheath that dramatically increases the speed and efficiency of neural transmission, is the last major developmental process and the most prolonged: it begins in utero but is not complete in the prefrontal cortex until the mid-twenties. The long duration of myelination explains in part why the adolescent and young adult brain continues to develop in ways that have functional consequences for behavior, impulse control, and complex decision-making.

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The 2024 update on neurodevelopmental disorders in the major genetics and genomics literature, reviewed in Nature Reviews Disease Primers, identified over 1,500 genes involved in various aspects of brain development that, when mutated, produce neurodevelopmental conditions. These genes include those involved in the regulation of transcription, in the splicing of RNA, in the modification of chromatin structure, and in the formation and function of synapses. Many of the most important genetic contributions come from rare variants of large effect (de novo mutations occurring spontaneously in the affected individual, not inherited from either parent) as well as from common genetic variants each of which individually has a small effect but which in combination contribute substantially to risk. The concept of polygenic risk, in which the sum of thousands of small genetic effects determines an individual's biological predisposition to a neurodevelopmental condition, is now well established for autism, ADHD, and intellectual disability, and it complicates simple notions of genetic causation.

Equally important are the environmental factors that interact with genetic predispositions to influence neurodevelopmental outcomes. Prenatal exposures are particularly critical, given the extraordinary sensitivity of the developing brain to environmental perturbations. Fetal alcohol spectrum disorder, caused by prenatal alcohol exposure, is the most common preventable cause of intellectual disability. Prenatal infection, particularly congenital rubella, cytomegalovirus, and toxoplasmosis, can disrupt brain development and produce intellectual disability, autism, and other neurodevelopmental conditions. Prenatal exposure to air pollutants, particularly fine particulate matter and nitrogen dioxide, has been associated in multiple epidemiological studies with increased risk of autism and ADHD. Perinatal factors including birth asphyxia, prematurity, and low birth weight are established risk factors for intellectual disability and for other neurodevelopmental conditions. Postnatal factors including head injury, lead exposure, nutritional deficiencies (particularly iodine deficiency, which is an important cause of intellectual disability in many developing countries), and severe psychosocial deprivation in early childhood can all affect neurodevelopmental outcomes.

In Bangladesh, several of these environmental risk factors deserve particular attention. Consanguineous marriage, which remains common in some communities, increases the risk of autosomal recessive genetic conditions that may present with intellectual disability and other neurodevelopmental impairments. Birth asphyxia remains a significant cause of preventable intellectual disability in settings where skilled birth attendance is not universal, though there has been substantial improvement in maternal and perinatal care in Bangladesh over the past two decades. Environmental lead exposure from contaminated drinking water, occupational sources, and recycled lead battery industries is a significant public health concern in parts of Bangladesh. Arsenic exposure, which is widespread in Bangladesh through contaminated groundwater, has been associated in Bangladeshi cohort studies with adverse effects on children's cognitive development and IQ.

83.4 The Transdiagnostic Perspective: Neurodevelopmental Conditions as a Spectrum

One of the most important theoretical developments in understanding neurodevelopmental disorders in recent years has been the articulation of what Michelini and colleagues (2024) called the "neurodevelopmental spectrum" as a transdiagnostic dimensional construct. This perspective, published in the journal World Psychiatry, argues that the clinical features that

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characterize autism spectrum disorder, ADHD, intellectual disability, learning disorders, communication disorders, and motor disorders are not merely conveniently grouped categorical conditions but rather represent different expressions of a shared underlying dimensional structure rooted in common genetic, neural, and cognitive mechanisms.

The evidence for this transdiagnostic perspective is substantial. Genetic studies consistently find that the same genetic variants that increase risk for autism also increase risk for ADHD, intellectual disability, and schizophrenia. Neuroimaging studies reveal overlapping patterns of brain connectivity differences across these conditions. Cognitive studies find that executive function deficits, difficulties with processing speed, and impairments in working memory are transdiagnostic features that cut across categorical boundaries. And clinical observation consistently finds that most individuals with neurodevelopmental conditions do not fit neatly into a single diagnostic category: comorbidity among neurodevelopmental conditions is the rule rather than the exception.

This does not mean that the categorical diagnoses are useless. They capture clinically meaningful patterns and provide a practical basis for communication among clinicians, service planners, and families. But it does mean that a clinician who thinks of neurodevelopmental conditions only in categorical terms will systematically miss the complexity of the individuals they are assessing, the frequent co-occurrence of multiple conditions in the same person, and the dimensional nature of the underlying traits that the categorical diagnoses imperfectly represent.

The transdiagnostic perspective has practical implications for clinical assessment, which should be comprehensive and dimensional rather than focused on achieving a single categorical diagnosis; for intervention planning, which should address the specific cognitive and behavioral profile of the individual rather than being guided solely by a categorical label; and for research, which should investigate shared mechanisms across conditions rather than treating each condition as a separate entity.

83.5 The Neurodiversity Framework: Between Respect and Clinical Responsibility

No discussion of conceptual frameworks for neurodevelopmental disorders would be complete without engagement with the neurodiversity framework, which has grown from a small advocacy movement in the 1990s into a significant and influential conceptual and political position that intersects with clinical practice in complex ways.

The concept of neurodiversity was coined by Australian sociologist Judy Singer in 1998 and popularized in the autistic community. Its central claim is that neurological variation among human beings, including the variations that are labeled as autism, ADHD, dyslexia, and other neurodevelopmental conditions, should be understood as a natural form of human diversity rather than as defects or disorders. Just as human beings vary in personality, temperament, and cognitive style in ways that reflect the diversity of the human genome and the diversity of developmental environments, so too do they vary in more fundamental neurological characteristics. The neurodiversity framework challenges the presumption that there is a single "normal" neurological configuration and that deviations from it represent pathology.

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The neurodiversity framework has generated important insights and important advocacy achievements. It has challenged the paternalistic and pathologizing language that has historically characterized professional and public discourse about autism and other neurodevelopmental conditions. It has highlighted the genuine strengths and capabilities that often accompany neurodevelopmental differences, challenging deficit-focused narratives that reduce autistic people and others to a list of impairments. It has advocated for accommodations and support rather than attempts to eliminate neurodevelopmental difference through aversive therapies. And it has emphasized the importance of including people with lived experience of neurodevelopmental conditions in decisions about research priorities, service design, and policy.

The neurodiversity framework has also been contested in important ways. Critics note that it was developed primarily by and for autistic people of high cognitive ability, and that it may not adequately represent the perspectives or needs of people with severe intellectual disability, profound autism, or other conditions associated with a high degree of functional impairment. They argue that treating all neurodevelopmental differences as simply "diversity" can minimize the genuine suffering that these conditions cause, the challenges they impose on individuals and families, and the clinical support that is genuinely needed. The claim that autism and ADHD represent valuable human diversity, while important as a corrective to deficit-focused stigma, must be held in tension with the reality that many people with these conditions experience significant distress and impairment that warrants clinical attention and therapeutic support.

For the clinician working in Bangladesh, the neurodiversity framework offers a valuable corrective to the pervasive stigma and deficit-focused language that characterizes much of the public and professional discourse about neurodevelopmental conditions. But it must be applied with sensitivity to the specific cultural context and to the specific needs of the individual. The Bangladeshi family seeking help for a child who cannot speak, who injures themselves, who cannot attend school, and who will never live independently is not primarily served by being told that their child is "simply different." They need practical, compassionate, and effective support. The neurodiversity perspective is most useful as one element of a comprehensive clinical philosophy that combines respect for the individuality and humanity of people with neurodevelopmental conditions, honest acknowledgment of the challenges these conditions can create, and commitment to providing effective support tailored to the specific needs of each individual and their family.

CHAPTER EIGHTY-FOUR: AUTISM SPECTRUM DISORDER - CLINICAL SCIENCE AND NEUROBIOLOGY

84.1 The Clinical Picture of Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by persistent and pervasive difficulties in two core domains: social communication and interaction, and restricted, repetitive patterns of behavior, interests, or activities. These core features are present from early in development, though they may not be fully recognized or diagnosed until later,

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particularly in those with higher cognitive ability or those who have learned to camouflage their differences through effortful social masking.

The social communication and interaction domain encompasses several distinct clusters of difficulty that have been recognized since Kanner's original description in 1943. Difficulties in social-emotional reciprocity include reduced sharing of interest and enjoyment with others, failure to initiate or respond to social overtures, limited use of joint attention (the ability to follow another person's gaze or pointing gesture to share awareness of an object or event), and reduced understanding of the unspoken rules of social interaction that neurotypical people acquire apparently effortlessly. Difficulties in nonverbal communicative behaviors include reduced or absent eye contact (though the nature and significance of this varies considerably across cultural contexts and across individuals on the spectrum), limited facial expression, unusual or inappropriate body language, and reduced use of gesture to communicate. Difficulties in developing, maintaining, and understanding relationships include difficulties in adjusting behavior to suit different social contexts, difficulties making and keeping friends, and reduced interest in peer interaction, though the latter is much less universal than earlier accounts suggested: many autistic people do have strong desires for social connection but find the implicit social rules of neurotypical interaction confusing and exhausting.

The restricted, repetitive behaviors and interests domain is equally heterogeneous. Stereotyped or repetitive motor movements, use of objects, or speech can range from hand-flapping, finger-flicking, and body-rocking to highly specific, rigid rituals around daily activities. Insistence on sameness, adherence to routines, and extreme distress at small changes can make the management of everyday transitions, changes in schedule, or unfamiliar environments extraordinarily challenging for the individual and their family. Highly restricted, fixated interests of abnormal intensity are among the most characteristic features of autism: the child who knows every detail about train timetables, dinosaur taxonomy, or the capital cities of every country in the world, and who returns to these interests with an intensity and persistence that neurotypical peers and family members find bewildering. And sensory hypersensitivity or hyposensitivity, which is now recognized as a core feature of ASD in ICD-11 though it was an associated feature rather than a diagnostic criterion in earlier classifications, means that autistic individuals may experience ordinary sensory environments (loud classrooms, fluorescent lighting, certain textures of food or clothing) as profoundly aversive or, conversely, may seek out intense sensory stimulation that others would find overwhelming.

The heterogeneity of ASD is one of its most defining characteristics and one of the most clinically important. The spectrum encompasses individuals at every level of cognitive ability, from profound intellectual disability to extraordinary cognitive gifts. It encompasses individuals who are entirely nonspeaking and those who are highly verbal. It encompasses individuals who require 24-hour care for all activities of daily living and those who live independently and hold professional positions. The common thread is the distinctive profile of social communication and interaction difficulties and restricted, repetitive behaviors, but this thread runs through an extraordinarily diverse population of human beings.

The concept of "autism camouflage" or "masking" has received increasing research attention in recent years and has particular relevance for clinical recognition. Masking refers to the effortful

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and often exhausting practice through which autistic individuals, particularly girls and women, suppress or hide their autistic characteristics in order to appear neurotypical in social settings. This practice can delay diagnosis by years or even decades, because the observer sees apparently adequate social functioning while the individual experiences the effort of masking as profoundly exhausting and often psychologically damaging. Research by Hull and colleagues (2017, 2020) and others has established that masking is more prevalent among autistic women than men, which contributes to the historic underdiagnosis of autism in girls and women.

84.2 Diagnostic Classification: ICD-11 and DSM-5-TR

The classification of autism spectrum disorder under both ICD-11 (World Health Organization, 2019) and DSM-5-TR (American Psychiatric Association, 2022) represents a major reconceptualization from the approach of earlier editions. The most important change was the consolidation of the previously separate diagnoses of autistic disorder, Asperger syndrome, childhood disintegrative disorder, Rett's disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS) into a single diagnosis: autism spectrum disorder. This consolidation was driven by evidence from genetic studies, neuroimaging studies, and longitudinal clinical observation that these previously separate categories did not represent distinct biological entities but rather different points on a continuous spectrum of the same underlying condition.

DSM-5-TR requires the presence of persistent deficits in social communication and social interaction across multiple contexts (Criterion A), and restricted, repetitive patterns of behavior, interests, or activities (Criterion B). Symptoms must be present in the early developmental period (Criterion C), though they may not fully manifest until social demands exceed limited capacities, or they may be masked by learned strategies later in life. Symptoms must cause clinically significant impairment in social, occupational, or other important areas of current functioning (Criterion D), and the disturbances must not be better explained by intellectual developmental disorder or global developmental delay (Criterion E, though intellectual disability and ASD can co-occur and should be diagnosed concurrently).

ICD-11 adopts a similar dual-domain structure but introduces important refinements. It specifies the severity of functional impairment in the social communication domain and in the restricted/repetitive behaviors domain separately, allows for specification of whether language abilities are absent, limited, or functional, and includes sensory hyperreactivity or hyporeactivity as one of the features within the restricted/repetitive behaviors criterion.

The specifiers available in DSM-5-TR and ICD-11 allow clinicians to convey important information about the clinical picture beyond the diagnosis itself: the presence or absence of accompanying intellectual impairment, the presence or absence of accompanying language impairment, association with a known medical or genetic condition, association with another neurodevelopmental or mental or behavioral disorder, and the presence of catatonia.

Several important controversies surround the current classification of autism. The removal of Asperger syndrome as a separate diagnosis in DSM-5 has been contested by some individuals and advocacy groups, who argue that Asperger syndrome represents a genuinely distinct identity

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and that its absorption into the broader ASD category erases important distinctions. The dimensional approach to severity within the spectrum, while scientifically well-motivated, has been criticized for potentially obscuring the enormous heterogeneity within each severity level. And the entire framework of categorical diagnosis has been challenged by advocates of the neurodiversity movement, who question the characterization of autism as a disorder rather than a form of human variation.

84.3 The Neurobiology of Autism Spectrum Disorder: From Genes to Neural Circuits

The neurobiology of autism is one of the most intensively investigated areas in all of psychiatry, and the past decade has produced an extraordinary outpouring of genetic, neuroimaging, and mechanistic research. The picture that emerges is one of remarkable complexity, with autism appearing to represent not a single biological condition but a heterogeneous collection of conditions sharing common behavioral features while differing in their underlying biological mechanisms.

Genetic research has been the most productive area. Large-scale genome-wide association studies (GWAS) have identified hundreds of common genetic variants, each with a small effect, that contribute to autism risk. Sequencing studies have identified hundreds of rare genetic variants, including de novo mutations in genes involved in synaptic development and function, that are found in individuals with autism and not in their unaffected relatives. Specific genetic conditions with high rates of autism include Fragile X syndrome (the most common inherited cause of intellectual disability, caused by a trinucleotide repeat expansion in the FMR1 gene), tuberous sclerosis complex, Angelman syndrome, Rett syndrome, and several chromosomal abnormalities including 22q11.2 deletion syndrome, Phelan-McDermid syndrome, and 15q11-13 duplications. Together, known genetic causes can be identified in approximately 20 to 30 percent of autism cases, with de novo mutations accounting for a substantial proportion.

Neuroimaging studies using MRI and functional MRI have identified characteristic patterns of brain structure and connectivity in autism. Perhaps the most robust finding is that autism is associated with altered patterns of functional connectivity within large-scale brain networks: the default mode network (involved in self-referential processing and social cognition), the salience network (involved in detecting and responding to relevant stimuli), and the social brain network (including the superior temporal sulcus, the temporo-parietal junction, and the medial prefrontal cortex, all involved in social perception and understanding). Altered connectivity patterns include both hypoconnectivity (reduced connectivity between certain brain regions) and hyperconnectivity (increased local connectivity within certain brain regions), and the specific pattern varies across individuals, contributing to the heterogeneity of the condition.

The synaptic hypothesis of autism, which proposes that the core pathology lies in disturbances of synaptic development, function, and maintenance, is supported by the convergence of genetic, postmortem, and animal model evidence. Many of the genes identified through sequencing as autism-risk genes encode proteins involved in the formation, maintenance, and modulation of synapses, including scaffold proteins of the postsynaptic density (SHANK1, SHANK2, SHANK3), neurexins and neuroligins (transsynaptic adhesion molecules), and components of the mTOR signaling pathway that regulates synaptic protein synthesis. The common finding of postmortem

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studies showing increased synaptic density in the cortex of autistic individuals is consistent with a failure of the normal developmental pruning of excess synapses, a hypothesis that connects autism to broader theories of synaptic development.

The excitatory-inhibitory (E/I) balance hypothesis proposes that autism is associated with an imbalance between excitatory and inhibitory neurotransmission in cortical circuits, with a relative excess of excitation (or deficit of inhibition) compared to the typical brain. This hypothesis is supported by several lines of evidence, including the high prevalence of epilepsy in autism (approximately 30 to 40 percent of people with autism develop epilepsy, suggesting a predisposition to excessive neural excitation), the finding that many autism-risk genes are involved in GABAergic inhibitory interneuron development and function, and neurophysiological studies showing altered patterns of neural oscillation that suggest E/I imbalance. If confirmed, the E/I balance hypothesis could have treatment implications, because drugs that modulate GABAergic function or that reduce glutamatergic excitation might, in principle, address some aspects of the core neurobiology of autism.

The most recent developments in autism neurobiology have focused on the role of the immune system and neuroinflammation. Several lines of evidence suggest that prenatal immune activation, maternal immune activation during pregnancy, and altered microglial function (microglia are the brain's resident immune cells) may contribute to autism pathophysiology in some individuals. This immune dimension of autism biology is not yet well enough understood to translate into clinical interventions, but it represents an active and potentially important area of research.

84.4 The Neurobiology of Social Cognition and Its Disruption in Autism

To understand the social difficulties that are central to autism, it is helpful to understand the neuroscience of social cognition: the set of cognitive processes through which we perceive, interpret, and respond to other people.

Theory of mind (ToM), sometimes called "mentalizing," is the ability to attribute mental states (beliefs, desires, intentions, knowledge) to oneself and to others, and to use these attributions to predict and explain behavior. The capacity for ToM is a fundamental prerequisite for effective social interaction, because most human social behavior depends on the ability to infer what others are thinking, wanting, and feeling. Simon Baron-Cohen, Uta Frith, and Alan Leslie published the first experimental demonstration in 1985 that children with autism had difficulty with ToM tasks (specifically the "Sally-Anne" false belief task), and the ToM deficit account of autism social difficulties has been enormously influential.

The neural substrate of ToM includes the temporo-parietal junction (TPJ), the medial prefrontal cortex (mPFC), the superior temporal sulcus (STS), and the posterior cingulate cortex, which together form a network sometimes called the "social brain" or the "mentalizing network." Functional neuroimaging studies consistently find that this network is less activated in autistic individuals during ToM tasks, and that the functional connectivity within the network is altered.

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A complementary account focuses on the "double empathy problem," a concept articulated by Damian Milton in 2012 and now widely recognized as an important theoretical and ethical corrective to purely deficit-focused accounts of autism social difficulties. Milton argued that the social difficulties of autistic people are not simply the result of a deficit in social cognition on the part of the autistic individual, but reflect a genuine mismatch between autistic and non-autistic social styles: a failure of empathy and understanding that operates in both directions. Non-autistic people are just as likely to misunderstand autistic communication styles as autistic people are to misunderstand non-autistic communication conventions. This bidirectional perspective has important implications for both the theory of autism and for intervention: it suggests that the social environments in which autistic people must operate may need to change, not only the autistic person themselves.

The predictive processing framework, which has become increasingly influential in cognitive neuroscience and psychiatry, offers another theoretical account of autism. This framework, associated with Karl Friston and others, proposes that the brain is fundamentally a prediction machine: it generates predictions about incoming sensory and social information based on prior experience, and continuously updates these predictions based on prediction errors (discrepancies between predictions and actual input). On this account, autism may involve reduced use of prior predictions in processing social and non-social information, so that autistic individuals experience the world with a higher level of sensory precision and less filtering through top-down expectations. This could explain both the sensory sensitivity that is characteristic of autism (the world is more "raw" and intense) and the reduced use of social scripts and conventions (which depend on learned prior predictions about how social interactions will proceed).

84.5 Comorbidity in Autism Spectrum Disorder

Comorbidity in autism spectrum disorder is not an exception but the norm. Studies consistently find that the majority of autistic individuals have at least one additional diagnosable psychiatric or medical condition, and many have several. The range of conditions that co-occur with autism is striking in its breadth.

Intellectual disability co-occurs with autism in approximately 30 to 50 percent of cases, though the exact proportion depends on the severity threshold used and the characteristics of the population studied. This means that in assessments of autism, evaluation of cognitive ability is an essential component.

ADHD co-occurs with autism in approximately 50 to 70 percent of cases in clinical populations. The co-occurrence of autism and ADHD was explicitly recognized only in DSM-5, which removed the earlier exclusion criterion that prevented simultaneous diagnosis of both conditions. The co-occurrence of autism and ADHD has complex implications for assessment (since inattention, impulsivity, and hyperactivity may present differently in autistic versus non-autistic children with ADHD) and for treatment.

Anxiety disorders are extremely common in autism, with prevalence estimates ranging from 40 to 80 percent in different studies. The anxiety in autism may be driven by several mechanisms: the

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genuine social threats that autistic individuals face in a world designed for neurotypical people, sensory overload that produces physiological arousal, the cognitive demands of social masking, and the anxiety-promoting effects of unpredictability and violation of expected routines. Anxiety in autism is important to identify and treat, because it substantially worsens functioning and quality of life and because it responds to appropriately adapted psychological and pharmacological interventions.

Depression is also highly prevalent, particularly in autistic adolescents and adults who are aware of their own differences and of the social exclusion they experience. The rate of suicidal ideation and behavior in autistic adults is several times higher than in the general population, and this represents a critical safety concern that has not always received the clinical attention it deserves.

Epilepsy, as noted above, occurs in approximately 30 to 40 percent of autistic individuals, with the risk being higher in those with more severe intellectual disability. The assessment and management of epilepsy in autism requires particular attention because seizures may present atypically, anticonvulsant medications can affect behavior and cognition, and the behavioral manifestations of seizures may be confused with autism-related behavioral dysregulation.

Sleep disorders are extremely common in autism, affecting between 50 and 80 percent of autistic children. Difficulties with sleep onset, frequent night wakening, and abnormal circadian rhythms are characteristic. The melatonin system is implicated, consistent with evidence of altered melatonin secretion in autism, and melatonin is one of the few interventions with a reasonably robust evidence base for sleep difficulties in autism.

Gastrointestinal problems, including constipation, diarrhea, gastroesophageal reflux, and abdominal pain, are significantly more prevalent in autistic individuals than in the general population. The mechanisms are not fully understood but may involve alterations in the gut microbiome, the gut-brain axis, and sensitivity to visceral sensory inputs. Gastrointestinal discomfort is an important cause of behavioral disturbance in autistic individuals who cannot communicate pain verbally, and routine assessment for gastrointestinal problems is an important clinical practice.

CHAPTER EIGHTY-FIVE: AUTISM SPECTRUM DISORDER IN BANGLADESH

85.1 Epidemiology of Autism in Bangladesh

The epidemiological picture of autism in Bangladesh is evolving as diagnostic awareness, training capacity, and research infrastructure have developed, but it remains incomplete and presents genuine methodological challenges. Any discussion of autism prevalence in Bangladesh must begin with an honest acknowledgment of these challenges.

Estimating the prevalence of autism in any setting requires the use of validated diagnostic instruments, trained assessors, a sampling strategy that provides an accurate representation of

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the target population, and a conceptual framework that appropriately accounts for the cultural context of the population being studied. In Bangladesh, each of these requirements presents significant challenges. Diagnostic instruments standardized in Western populations have not been fully validated for the Bangladeshi cultural context. Trained assessors capable of conducting comprehensive autism evaluations are concentrated in Dhaka and a few other major cities. Population-based surveys with the methodological rigor needed to produce reliable prevalence estimates are expensive and logistically complex in a country of 170 million people spread across diverse geographic areas.

The most comprehensive population-based survey of autism prevalence in Bangladesh to date was conducted by Akhter and colleagues and published in the journal Autism in 2024. This nationwide survey, conducted among children aged 16 to 30 months at urban and rural sites across Bangladesh, used the Modified Checklist for Autism in Toddlers (M-CHAT) as a screening tool followed by more detailed diagnostic evaluation of positive screens. The study found a prevalence of ASD of approximately 1.08 percent (approximately 1 in 93 children), with somewhat higher prevalence in urban compared to rural areas. This figure is lower than the globally estimated prevalence of approximately 1 in 100 children (World Health Organization, 2025 Fact Sheet) but is likely an underestimate, given the conservative diagnostic approach used and the possibility that many children in the rural sample with ASD were missed by the initial screening.

A 2025 study published in the International Journal of Developmental Disabilities investigated prenatal, perinatal, and environmental risk factors associated with ASD in northeastern Bangladesh (the Sylhet region), recruiting children diagnosed with ASD from specialized schools in that region alongside typically developing children and unaffected siblings as comparison groups. This study found that advanced maternal age, firstborn status, consanguinity, birth asphyxia, and blood Rh incompatibility were significantly associated with ASD in this population. These findings are broadly consistent with global evidence on ASD risk factors and have implications for preventive strategies in the Bangladeshi context.

A 2025 study using machine learning techniques to analyze sociodemographic risk factors for ASD in Bangladesh, published in Applied Computational Intelligence and Soft Computing, identified maternal age, parental stress, parental disease, consanguinity, family history of ASD, and complications during delivery as key risk factors for early ASD identification in Bangladeshi children. The same study noted the importance of zinc insufficiency as a contributing factor, given zinc's well-established role in infant neurodevelopment.

The Global Burden of Disease (GBD) 2021 data, analyzed in a 2025 Frontiers in Public Health study on neurodevelopmental disorder trends, placed Bangladesh at the lower end of ASD prevalence estimates globally, with approximately 652 per 100,000 children aged 0 to 14 years (approximately 0.65 percent). This lower figure compared to the global average of approximately 1 percent likely reflects a combination of genuine epidemiological differences, diagnostic underdetection due to limited assessment capacity, and the cultural presentation of autism in Bangladesh, which may differ from the presentation in populations where the standardized instruments used for GBD modeling were developed and validated.

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Regardless of the exact prevalence figure, the absolute numbers are large. Even at the conservative prevalence estimate of approximately 1 percent of children, Bangladesh would have over half a million children living with autism. The vast majority of these children have never received a formal diagnosis, have never been assessed by a trained professional, and have never accessed any specialized educational or therapeutic service. This represents an extraordinary gap between need and provision that constitutes one of the most significant unaddressed public health challenges in Bangladeshi child health.

85.2 Cultural Dimensions of Autism in Bangladesh: Understanding and Attribution

Understanding how autism is understood, experienced, and responded to within Bangladeshi cultural frameworks is essential for effective clinical and public health work. The cultural dimensions of autism in Bangladesh are not merely a backdrop to the "real" clinical picture; they shape the timing of help-seeking, the acceptability of different diagnostic and therapeutic frameworks, the impact of the condition on the family and community, and the wellbeing of the autistic child and their family.

In many Bangladeshi communities, the early behavioral features of autism are likely to be interpreted through supernatural frameworks before any medical framework is considered. A child who does not speak, who seems unresponsive to others, who engages in repetitive behaviors, and who shows distress at changes in routine may be understood as having been afflicted by a jinn, as having been exposed to the evil eye (nazar), or as having been cursed. These interpretations may lead families to seek help initially from a kabiraj or an ojha, or to bring the child to a shrine for spiritual healing. They may delay by months or years the family's contact with medical services, by which time the opportunity for early intervention during the most plastic phase of brain development may have been partially lost.

The shame and stigma associated with having a child with developmental disability in Bangladesh can be profound and can cause enormous suffering to families. Families may conceal the child's condition from neighbors and extended family. They may reduce the child's social participation to avoid public scrutiny. In extreme cases, they may effectively imprison the child within the home. The burden of caregiving falls disproportionately on mothers, who may also face blame for the child's condition (echoes, disturbingly, of the long-discredited "refrigerator mother" theory). The marriage prospects of siblings of a child with autism may be perceived to be affected, providing a further incentive for concealment.

Gender dynamics are also important. There is evidence suggesting that autism in girls may be recognized later than in boys in all societies, but this gender gap in recognition may be particularly pronounced in Bangladesh, where cultural expectations about female behavior (greater social conformity, less behavioral flexibility expected from girls, greater pressure on girls to be socially appropriate) may make the behavioral manifestations of autism in girls less visible or more easily attributed to other causes. The consequence may be that Bangladeshi girls with autism are even more systematically underdiagnosed than boys.

At the same time, Bangladeshi families also demonstrate remarkable resilience and commitment in caring for children with autism under conditions of great difficulty. There are families who

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have sought services across the length and breadth of the country, traveled to Dhaka from remote districts to access assessment and therapy, established informal parent support networks, and advocated fiercely for their children's educational rights. The parent advocacy movement for autism in Bangladesh, while modest in scale relative to what exists in high-income countries, is a genuine and growing social force that deserves support and recognition.

85.3 Autism Services in Bangladesh: The Current Landscape

The landscape of autism services in Bangladesh is characterized by a small number of relatively well-developed urban specialist services, a somewhat larger number of NGO-operated programs of variable quality, a rapidly growing awareness but persistently inadequate training among general health professionals, and virtually no services in rural areas where the majority of the population lives.

At the apex of the formal service system sits the National Academy for Autism and Neurodevelopmental Disorders, established under the Neurodevelopmental Disability Trust Fund Act of 2013. The Institute of Paediatric Neurodisorder and Autism (IPNA) at Bangabandhu Sheikh Mujib Medical University (BSMMU) provides specialist diagnostic and therapeutic services and is the primary training institution for professionals working in this area. The Child Development Centers established in tertiary hospitals across Bangladesh, fifteen of which were operational as of recent reports, provide multidisciplinary assessment for children with neurodevelopmental conditions including autism.

Specialist early intervention services for autistic children, including applied behavior analytic approaches, developmental behavioral approaches such as the Early Start Denver Model (ESDM), and speech-language therapy, are available in Dhaka at a small number of private and NGO-operated centers. A 2025 study published in Research in Developmental Disabilities, examining ASD interventions in Bangladesh through a cross-sectional survey of nine organizations in Dhaka and Chittagong, found that developmental interventions including speech-language therapy and occupational therapy were widely used and well-received by both parents and professionals, while the importance of a collaborative, multidisciplinary approach was strongly endorsed by educators and clinicians alike. The same study found no significant difference in intervention effectiveness between the two cities studied.

However, the reach of these services is extremely limited. Access requires geographical proximity to the city, financial resources to pay for therapy (government services are nominally free but often underfunded and understaffed), and the ability to navigate a complex and often opaque service system. Families from rural areas, from socioeconomically disadvantaged backgrounds, or from communities where autism awareness is low are systematically excluded from these services.

The policy framework for autism services in Bangladesh was significantly strengthened by the Neuro-developmental Disability Protection Trust Act 2013, which created the Neurodevelopmental Disability Protection Trust Fund and mandated support for people with autism, intellectual disability, Down syndrome, and cerebral palsy. However, the implementation

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of this legislative framework has been incomplete, with significant gaps in funding, service provision, and the development of human resources.

Educational provision for autistic children in Bangladesh remains a major challenge. The majority of autistic children, particularly those in rural areas, have no access to appropriate education. Mainstream schools are typically unable to accommodate autistic children, particularly those with significant behavioral or communication challenges. Special schools exist in Dhaka and a few other cities but are expensive and far from most families. The Government of Bangladesh has made legislative commitments to inclusive education for all children with disabilities, including autism, but the gap between legislative aspiration and practical reality remains extremely wide.

CHAPTER EIGHTY-SIX: ASSESSMENT OF AUTISM SPECTRUM DISORDER IN CLINICAL PRACTICE

86.1 The Principles of Autism Assessment

The assessment of autism spectrum disorder is a complex clinical undertaking that requires skill, time, and access to information from multiple sources. It is not achievable through a brief clinical interview, a questionnaire, or a single assessment session. A comprehensive autism assessment draws on structured observation of the individual's behavior, detailed developmental history from caregivers, cognitive and adaptive behavior assessment, and often input from educators and other professionals who know the individual well.

The gold standard instruments for autism assessment include the Autism Diagnostic Observation Schedule (ADOS-2), a structured observation instrument administered directly to the individual, and the Autism Diagnostic Interview Revised (ADI-R), a semi-structured parent/caregiver interview. Together, these instruments have been shown to have high diagnostic validity across diverse populations and are the instruments most commonly used in research studies. However, both instruments require specialized training to administer and interpret, are time-consuming (the ADOS-2 takes 40 to 60 minutes, the ADI-R takes several hours), and were developed and standardized in Western, English-speaking populations. Their cultural validity in the Bangladeshi context, while broadly acceptable according to studies that have adapted and used them (the northeastern Bangladesh study published in 2025 used a modified ADI-R/ADOS), requires ongoing critical attention.

In the Bangladesh context, a practical clinical assessment for autism should include a detailed developmental history covering the child's development from the prenatal period through the current time, with particular attention to the development of social communication milestones (did the child babble, point, wave, look to share interest, use gestures for communication, develop language?), the onset of language (including any regression in language, which is found in approximately 20 to 30 percent of children with autism and is a clinically important feature), the presence and nature of restricted and repetitive behaviors, sensory sensitivities, patterns of play, and sleep. The history should also cover the child's behavior in different settings (home,

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school if applicable, with different family members), because one of the diagnostic criteria is that the features are present across contexts.

A structured observational assessment is the most clinically informative part of the autism assessment. Even without access to the formal ADOS-2, a skilled clinician can structure an observation session to elicit opportunities to assess key behavioral features: joint attention (does the child look to share interest in an object by alternating gaze between the object and the clinician's face?), response to name (does the child reliably turn when their name is called?), social orienting (does the child orient toward people and social stimuli or preferentially toward objects?), pretend play (does the child engage in pretend play appropriate for their developmental level?), imitation (does the child imitate gestures and actions?), and the characteristics of any language or communicative behavior the child shows.

Cognitive assessment using standardized psychometric instruments is an essential component of comprehensive autism assessment. In Bangladesh, the most commonly used instruments include adaptations of the Bayley Scales of Infant Development, the Griffiths Mental Development Scales, and the Wechsler Intelligence Scale for Children (WISC). The selection of appropriate instruments must take account of the child's language and communication level: for children who are nonspeaking or minimally verbal, nonverbal cognitive assessment instruments are more appropriate. Adaptive behavior assessment, which measures how well the individual applies their cognitive abilities in real-world functional situations, is equally important and is often underperformed in the Bangladeshi clinical context.

Medical investigation for autism should include assessment for any identifiable underlying genetic or metabolic cause, because the identification of an underlying condition has implications for prognosis, family counseling, and specific interventions. In the Bangladeshi context, where genetic testing resources are limited, a pragmatic approach is to prioritize genetic investigation for individuals with dysmorphic features, significant intellectual disability, family history of the same condition, or other features suggesting a specific genetic syndrome. Fragile X testing is the most important single genetic test for autistic individuals with intellectual disability. Chromosomal microarray analysis, which can detect chromosomal copy number variants associated with autism, is available in specialized centers in Dhaka but is expensive and not universally accessible. EEG investigation for subclinical epilepsy is important, particularly for children with behavioral regression or paroxysmal behavioral changes. Thyroid function and metabolic screening should be performed, as both hypothyroidism and some metabolic disorders can present with developmental regression and behavioral features that can mimic or accompany autism.

86.2 Differential Diagnosis and Diagnostic Challenges

The differential diagnosis of autism spectrum disorder in Bangladesh includes several conditions that may present with overlapping features and that require careful evaluation. The most common of these are discussed here.

Intellectual developmental disorder without autism can present with delayed language development, limited social interaction, and some repetitive behaviors that can superficially

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resemble autism. The key distinction is that in intellectual disability without autism, the social and communicative behaviors are generally consistent with the overall level of cognitive development, whereas in autism there is a specific and disproportionate impairment in social communication beyond what would be expected from the cognitive level alone. Joint attention, social orienting, and the quality of social relatedness are key distinguishing features.

Severe language disorder (developmental language disorder, specific language impairment) can present with poor social interaction and limited communication that may superficially resemble autism. In language disorder without autism, social relatedness is generally preserved: the child makes eye contact, uses gestures, and shows interest in social interaction, but is limited by the absence or impairment of spoken language. Careful observation of nonverbal communicative behaviors is the key to making this distinction.

Hearing impairment can cause delays in language development and social communication that may initially raise concerns about autism. Audiometric assessment should be a routine part of the evaluation of any child presenting with concerns about language development or social communication.

Reactive attachment disorder (RAD) is characterized by disturbed and developmentally inappropriate attachment behaviors, social relatedness, and emotional regulation in children who have experienced severe neglect or disruption of early caregiving. In Bangladesh, where institutionalization of very young children, child labor, and other disruptions of early caregiving occur, RAD should be considered in the differential diagnosis of children presenting with social communication and behavioral difficulties. The key distinguishing feature is the history of severe early neglect or disruption of caregiving, and improvement in social behavior when the caregiving environment improves.

Global developmental delay is used as a diagnosis for children under five who are performing below age expectations across multiple domains of development but who have not yet received a specific diagnosis. Many children who eventually receive a diagnosis of autism will initially be recognized as having global developmental delay, and autism-specific diagnostic assessment should be considered in all children with global developmental delay.

In the Bangladeshi clinical context, perhaps the most important diagnostic challenge is not distinguishing autism from similar conditions but simply ensuring that children with autism are recognized as having a neurodevelopmental condition rather than having their difficulties attributed exclusively to supernatural causes, family dysfunction, or educational deprivation. This requires a clinical culture in which developmental concerns are taken seriously, in which primary care and pediatric clinicians have sufficient autism awareness to recognize the need for specialist assessment, and in which referral pathways to specialist assessment services are accessible and functional.

CHAPTER EIGHTY-SEVEN: INTERVENTIONS FOR AUTISM SPECTRUM DISORDER

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87.1 The Principles of Intervention in Autism Spectrum Disorder

Intervention in autism spectrum disorder should be guided by several overarching principles that are both evidence-based and ethically grounded. First, early intervention is associated with better outcomes, and the prioritization of assessment and intervention for young children with autism is a clinical and public health priority. The period from birth to approximately five years of age is characterized by extraordinary neuroplasticity, and behavioral interventions delivered during this period can produce changes in neural connectivity and functional outcome that are not achievable through the same interventions applied later. This does not mean that intervention for older individuals and adults is futile, but it does mean that the identification of autism as early as possible and the rapid initiation of appropriate support is important.

Second, intervention should be individualized to the specific profile of the person with autism. Because autism encompasses an extraordinary range of presentations, no single intervention approach is appropriate for all autistic individuals. Interventions must be tailored to the individual's cognitive level, communication abilities, behavioral challenges, sensory profile, family context, and personal goals.

Third, interventions should address the practical priorities and quality of life of the individual and their family, not exclusively the reduction of "autistic symptoms." This means that interventions aimed at developing functional communication, managing sensory challenges, building coping skills, supporting participation in education and community life, and promoting wellbeing are as important as interventions that target core autism features.

Fourth, the rights and dignity of the person with autism must be respected throughout the intervention process. Interventions that are coercive, that aim primarily to make autistic people appear neurotypical rather than supporting their wellbeing, or that cause distress and harm are ethically unacceptable regardless of their claimed effectiveness. The history of aversive ABA practices, which used punishment and aversive consequences to suppress autistic behaviors, is a sobering reminder of the harms that can be done in the name of therapy.

Fifth, family support is an essential component of any autism intervention system. Parents and other family caregivers are the primary providers of support for autistic children in Bangladesh, and their own wellbeing, competence, and knowledge directly affects the outcomes of their children. Parent training, family support, and caregiver wellbeing programs are not luxuries but clinical necessities.

87.2 Behavioral and Developmental Interventions

The interventions with the strongest evidence base for autism are behavioral and developmental in nature. The most extensively studied of these is Applied Behavior Analysis (ABA), which applies the principles of behavior learning theory, specifically operant conditioning, to the systematic teaching of skills and the reduction of challenging behaviors in autistic individuals. Early Intensive Behavioral Intervention (EIBI), which delivers intensive ABA-based intervention to young autistic children for 25 to 40 hours per week, has been shown in multiple randomized

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controlled trials and systematic reviews to produce significant improvements in cognitive ability, language development, and adaptive behavior for many young autistic children.

However, ABA has also been significantly contested, particularly by autistic adults reflecting on their own experiences of early behavioral intervention. Critics have argued that intensive behavioral programs focused on making autistic children appear neurotypical, including programs that use techniques to suppress stimming (repetitive motor behaviors that many autistic people find self-regulating and comforting) and eye contact (a feature that many autistic people find uncomfortable and cognitively demanding), can cause long-term psychological harm including symptoms consistent with PTSD. Contemporary best practice in ABA, reflected in guidelines from the Association for Behavior Analysis International and others, has evolved significantly from early coercive approaches toward naturalistic, play-based, child-directed approaches that prioritize the child's wellbeing alongside skill development.

The Early Start Denver Model (ESDM), developed by Sally Rogers and Geraldine Dawson, represents the most developed and extensively evaluated naturalistic developmental behavioral intervention for young autistic children. The ESDM integrates developmental and relationship-based approaches with behavioral learning principles, delivering intervention through play and everyday activities rather than through discrete trial training, and prioritizing the development of social engagement, joint attention, and language through positive relationship-based interactions. Multiple randomized controlled trials have demonstrated the effectiveness of ESDM for improvements in cognitive ability, language, social behavior, and neural connectivity measures. Importantly, a caregiver-implemented version of ESDM has been developed and evaluated, making the intervention more accessible in low-resource settings.

Communication and language interventions are among the highest priorities for most young autistic children. Speech-language therapy, delivered by trained speech-language pathologists, addresses the development of communication skills including spoken language, gesture, and for those who will not develop functional spoken language, Augmentative and Alternative Communication (AAC). AAC encompasses a range of systems from picture exchange communication systems (PECS) to high-tech speech-generating devices, and the evidence base for AAC in autism is strong. In Bangladesh, the very limited supply of trained speech-language pathologists (there are probably fewer than a few hundred trained speech-language pathologists in the entire country) represents a major constraint on access to evidence-based communication intervention.

The Thinking Healthy Program, which was described in Part Six in the context of perinatal depression, has also been adapted for autism support and is relevant in the Bangladesh context as a model for how community health workers can be trained to deliver simplified versions of evidence-based interventions to families without access to specialist services.

87.3 Pharmacological Interventions in Autism

There are no pharmacological treatments that target the core social communication or restricted/repetitive behavior features of autism, despite decades of pharmaceutical research

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investment. However, several pharmacological interventions have a role in treating specific associated conditions and behavioral challenges.

Risperidone and aripiprazole are the only two medications with regulatory approval from the US Food and Drug Administration for irritability associated with autism (manifesting as aggression, self-injurious behavior, and severe tantrum behaviors). Both are atypical antipsychotics with dopamine and serotonin receptor antagonist properties. The evidence from randomized controlled trials supports their effectiveness for reducing irritability, but they are associated with significant side effects including weight gain, metabolic effects, and sedation, and they do not improve social communication or core autism features. Their use should be reserved for cases where behavioral challenges are severe, causing harm, and have not responded to behavioral interventions, and monitoring for side effects should be systematic.

Melatonin has good evidence for improving sleep onset difficulties in autism, which is relevant given the high prevalence of sleep problems in this population. Melatonin is generally well tolerated and is available in Bangladesh, though it is not formally licensed for pediatric use in all contexts.

SSRIs have been used for anxiety and repetitive behaviors in autism, but the evidence base is weaker than in anxiety disorders generally, and there are some concerns about increased agitation and behavioral activation in autistic individuals on SSRIs. When used, they should be started at low doses and titrated slowly.

Stimulant medications (methylphenidate) have evidence for reducing inattention and hyperactivity in autistic children with co-occurring ADHD, though effect sizes are somewhat smaller than in ADHD without autism and side effects may be more common. In Bangladesh, methylphenidate is available but expensive, not covered by insurance, and insufficiently prescribed because ADHD is underdiagnosed in autistic children.

87.4 Education and Inclusion: Rights, Realities, and the Bangladesh Context

The right of autistic children to education is unambiguous in international law. The United Nations Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities, both ratified by Bangladesh, guarantee the right to education without discrimination, including the right to inclusive education in ordinary schools with reasonable accommodations and support. Bangladesh's own Primary Education Act and subsequent educational legislation include provisions for inclusive education for children with disabilities. The reality for most autistic children in Bangladesh falls far short of these legal aspirations.

The mainstream school system in Bangladesh is generally not equipped to educate autistic children, particularly those with significant communication or behavioral challenges. Class sizes are large (often 50 or more children), teachers lack training in autism or neurodevelopmental conditions, and the curriculum is highly structured and examination-focused in ways that are particularly challenging for autistic learners. The physical environment of most Bangladeshi school buildings is not designed with sensory considerations in mind.

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Special schools for children with autism exist in Dhaka and a few other major cities, and some of these schools provide genuinely high-quality education by international standards. However, they are available to a tiny minority of autistic children, and their cost places them out of reach for most families. The National Academy for Autism and Neurodevelopmental Disorders operates some special educational programs, but demand vastly exceeds capacity.

The development of inclusive education for autistic children in Bangladesh will require sustained investment in teacher training, classroom support, and curriculum adaptation, as well as a cultural shift away from the competitive examination model that currently dominates educational thinking toward a broader concept of educational achievement that encompasses social participation, communication, and life skills alongside academic performance.

CHAPTER EIGHTY-EIGHT: ATTENTION DEFICIT HYPERACTIVITY DISORDER - CLINICAL SCIENCE AND NEUROBIOLOGY

88.1 Defining ADHD: The Clinical Picture

Attention Deficit Hyperactivity Disorder is one of the most prevalent neurodevelopmental conditions in childhood, and its recognition and management in Bangladesh has important public health implications. ADHD is characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development, that interferes with or reduces the quality of social, academic, and occupational functioning, and that was present before the age of twelve.

The inattentive dimension of ADHD encompasses a cluster of difficulties that significantly impact academic performance and daily functioning. These include difficulty sustaining attention during tasks or play, failure to give close attention to details and making careless mistakes, difficulty following through on instructions and completing tasks, difficulty organizing tasks and activities, avoidance of tasks requiring sustained mental effort, losing things necessary for tasks, being easily distracted by extraneous stimuli, and forgetfulness in daily activities. These difficulties are most apparent in settings that demand sustained attention to material that the individual does not find inherently interesting or engaging, which is precisely the situation of a classroom. They are often not apparent in situations where the individual is engaged with something that captures their attention spontaneously, leading to the common misunderstanding that because the child can focus on video games or their special interest for hours, they cannot "really" have ADHD.

The hyperactive-impulsive dimension encompasses motor restlessness (fidgeting, squirming, leaving seat when expected to remain seated, running and climbing in inappropriate situations), talkativeness and difficulty waiting for one's turn, interrupting or intruding on others, and acting before thinking. These features are often the most visible manifestation of ADHD, particularly in young boys, and they are often what leads families to seek assessment.

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DSM-5-TR recognizes three presentations of ADHD: predominantly inattentive, predominantly hyperactive-impulsive, and combined (meeting criteria for both inattentive and hyperactive-impulsive dimensions). The predominantly inattentive presentation is more common in girls and often goes unrecognized because it does not produce the behavioral disruption in the classroom that brings children to the attention of teachers and school systems. This gender differential in the clinical presentation of ADHD contributes to the systematic underdiagnosis of ADHD in girls across all cultures, including Bangladesh.

A conceptual development that has emerged strongly in 2024 and 2025 is the framing of ADHD within a predictive coding and active inference framework. Montgomery and colleagues (2024), among others, have proposed that ADHD involves distinctive mechanisms for generating and updating predictions about the environment, representing ADHD less as a deficit disorder and more as a profile of neurocognitive difference that may confer certain advantages in particular environments while creating challenges in others. This theoretical reframing has not yet fully translated into clinical practice but represents an important intellectual current in ADHD research.

88.2 Neurobiology of ADHD

The neurobiology of ADHD is substantially better understood than it was a decade ago, though important gaps remain. The core neurobiological findings concern the brain's executive function systems, the dopamine and norepinephrine neurotransmitter systems, and the neural networks involved in attention and self-regulation.

ADHD is associated with structural and functional differences in specific brain regions and networks. Neuroimaging studies have consistently found that the prefrontal cortex, caudate nucleus, cerebellum, and corpus callosum are on average slightly smaller in children with ADHD compared to typically developing children, and that cortical maturation (the developmental thinning of the cortex that proceeds from posterior to anterior brain regions) is delayed in ADHD by approximately two to three years in some brain regions. This delay in cortical maturation is associated with the delay in the development of executive functions that characterizes ADHD, and it supports the view of ADHD as fundamentally a condition of atypical neurodevelopmental trajectory rather than a fixed deficit.

Functional neuroimaging studies have identified altered patterns of activation in the prefrontal cortex and its connections to the basal ganglia (particularly the striatum) during tasks requiring sustained attention, response inhibition, and working memory, the core executive function deficits of ADHD. The default mode network (DMN), which is normally suppressed during externally directed tasks, shows abnormal persistence of activation in ADHD, which may reflect the mind-wandering and distractibility that are characteristic of the condition.

The dopamine and norepinephrine systems are central to the neurobiology of ADHD, as evidenced both by the therapeutic effectiveness of medications that enhance dopaminergic and noradrenergic transmission (stimulants and non-stimulants) and by genetic and neurochemical studies. The dopamine system is critically involved in the regulation of attention, motivation, and reward processing. The prefrontal cortex, which is particularly dependent on optimal dopamine

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signaling for its functioning, is the site of the executive function deficits that define ADHD. The catecholamine hypothesis of ADHD proposes that ADHD results from suboptimal catecholamine tone in prefrontal circuits, and that stimulant medications, which increase synaptic catecholamine availability, correct this suboptimality and thereby improve prefrontal function and executive control.

Genetic studies have confirmed high heritability for ADHD (estimated at 70 to 80 percent in twin studies) and have identified multiple common genetic variants, each of small effect, that contribute to ADHD risk. Genes involved in dopamine signaling (including the dopamine D4 receptor gene DRD4, the dopamine transporter gene SLC6A3, and the catechol-O-methyltransferase gene COMT) have been among the most studied, though the effect sizes of individual variants are modest. More recent genome-wide association studies have identified additional loci, and the genetic architecture of ADHD appears similar to that of other complex neurodevelopmental and psychiatric traits, with large polygenicity and significant genetic overlap with autism, major depression, and schizophrenia.

A 2024 World Psychiatry study on where neurodevelopmental conditions fit in transdiagnostic frameworks highlighted the substantial genetic and neural overlap among ADHD, autism, learning disorders, and intellectual disability, supporting the view that inattention and executive function difficulties represent a transdiagnostic dimension that cuts across categorical boundaries. This overlap has clinical implications: a comprehensive assessment for ADHD should always screen for co-occurring neurodevelopmental conditions, and treatment planning should address the full profile of the individual rather than targeting a single categorical diagnosis.

88.3 ADHD Across the Lifespan

One of the most important conceptual developments in ADHD research over the past two decades has been the recognition that ADHD is not simply a childhood condition that resolves with puberty but a lifespan condition that, while it may change in its manifestation across development, typically persists into adulthood. Long-term follow-up studies have found that approximately 50 to 65 percent of children with ADHD continue to meet full diagnostic criteria in adulthood, and that most of the remaining individuals continue to experience significant subclinical symptoms that impair functioning.

The manifestation of ADHD changes across the lifespan in predictable ways. Hyperactivity typically decreases with age, often being replaced by a subjective sense of inner restlessness and an inability to relax rather than overt motor hyperactivity. Inattention tends to persist and may become more apparent in adulthood as the demands of occupational and family roles increase. Impulsivity may become more socially costly in adulthood, affecting relationships, driving, financial decision-making, and occupational behavior.

Adult ADHD has been substantially underrecognized, particularly in low- and middle-income countries. In Bangladesh, the concept of adult ADHD is almost entirely absent from clinical practice, and adults with significant ADHD-related impairments are likely to have their difficulties attributed to other causes, including character flaws, anxiety, or depression (with

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which ADHD commonly co-occurs). The recognition and treatment of adult ADHD in Bangladesh represents an important unmet need that will require both professional education and public awareness work.

The educational outcomes of children with undiagnosed and untreated ADHD are substantially worse than those of typically developing peers. In Bangladesh, where educational achievement is under intense pressure and where examination performance is highly consequential for life outcomes, undiagnosed ADHD may contribute significantly to school failure, early dropout, and the failure of talented individuals to achieve their educational potential. The treatment gap for ADHD in Bangladesh is probably even larger than the treatment gap for autism, because ADHD has received substantially less political and public attention.

CHAPTER EIGHTY-NINE: ADHD IN BANGLADESH - EPIDEMIOLOGY, ASSESSMENT, AND MANAGEMENT

89.1 Epidemiology of ADHD in Bangladesh

The epidemiological data on ADHD in Bangladesh is extremely limited. The National Mental Health Survey Bangladesh 2019 identified ADHD as among the most common neurodevelopmental conditions in children and adolescents, but the methodological limitations of using screening instruments calibrated for Western populations in the Bangladeshi context mean that the prevalence estimates should be interpreted with caution. The GBD 2021 data analyzed in a 2025 Frontiers in Public Health study found that ADHD prevalence among children aged 0 to 14 ranged substantially across countries, with Bangladesh falling in the middle range of low-middle-income country estimates.

Community-based studies of ADHD prevalence specifically in Bangladesh are scarce. Studies conducted in clinical settings consistently find ADHD to be a common reason for referral to child psychiatric and pediatric neurology services in major hospitals, but clinical samples are not representative of the population. The global meta-analytic evidence consistently estimates ADHD prevalence at approximately 5 to 7 percent among school-age children, and there is no compelling reason to think that the fundamental prevalence of ADHD in Bangladesh would be dramatically different from this, though the manifestation and recognition of the condition are shaped by cultural context.

ADHD is almost certainly underdiagnosed in Bangladesh. The most important reasons for underdiagnosis include limited awareness of ADHD among parents, teachers, and health professionals; the normalization of hyperactive and inattentive behaviors as "naughty" or "lazy" rather than indicative of a neurodevelopmental condition; the absence of validated Bangladeshi assessment instruments calibrated for the Bangladeshi cultural and educational context; the absence of trained child psychiatrists and clinical psychologists in most of the country; and the cultural tendency to attribute behavioral difficulties to family dysfunction, poor parenting, or spiritual causes.

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The systematic underdiagnosis of ADHD in Bangladeshi girls deserves particular emphasis. Because the hyperactive-impulsive presentation of ADHD is more culturally visible and disruptive in the school setting, and because girls with ADHD more commonly present with the inattentive presentation that is less behaviorally disruptive, girls with ADHD are likely to go even more systematically unrecognized in Bangladesh than in high-income country settings. The consequence is that many Bangladeshi girls with ADHD spend their school years struggling silently with attention, organization, and learning difficulties, their challenges attributed to stupidity, laziness, or domestic distractions.

89.2 Cultural Dimensions of ADHD in Bangladesh

The concept of ADHD as a neurodevelopmental condition is not well established in most Bangladeshi communities, whether lay or professional. Behaviors characteristic of ADHD, particularly hyperactivity and impulsivity, are most commonly attributed in the Bangladeshi cultural context to inadequate discipline, poor parenting, or simply to a "naughty" or difficult temperament. The idea that a child who cannot sit still in school, who constantly talks out of turn, who cannot complete homework assignments without constant supervision, and who is failing academically despite apparent intelligence might have a neurobiological condition requiring specialist assessment and treatment is not intuitively obvious in a cultural framework that emphasizes social conformity, respect for authority, and the power of discipline and effort to correct behavioral deficiencies.

Religious and spiritual explanations for ADHD-like behaviors are also common. A child with severe ADHD symptoms may be described as having been "affected by a jinn" that prevents them from sitting calmly, or as having a "hot temperament" (ushna mizaj in Unani medical terminology) that requires regulation through dietary and herbal interventions.

The educational system of Bangladesh, which is highly examination-focused, lecture-based, and demanding of sustained passive attention, is a particularly ill-fitting environment for children with ADHD. The inability of children with ADHD to conform to the behavioral expectations of this educational environment is almost inevitably interpreted as willful non-compliance or intellectual insufficiency rather than as the manifestation of a neurodevelopmental condition, and the educational response typically consists of punitive measures rather than supportive accommodations.

The recognition of ADHD in Bangladesh requires a fundamental shift in cultural understanding that parallels, though it is not identical to, what has occurred in high-income countries over the past three to four decades. This cultural shift requires engagement with parents, teachers, religious leaders, and community figures as well as health professionals, and it requires messages that are culturally sensitive, scientifically accurate, and practically actionable.

89.3 Assessment of ADHD in Bangladesh

The clinical assessment of ADHD in Bangladesh must adapt the evidence-based assessment framework from high-income country settings to the specific constraints and cultural context of the Bangladeshi environment. A comprehensive ADHD assessment includes a detailed history,

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behavioral assessment using validated rating scales, cognitive assessment, and medical evaluation to exclude other causes of the presenting behavioral difficulties.

The clinical history for ADHD should cover the onset and course of symptoms, the specific behaviors of concern and their impact on functioning in different settings, the academic history including performance across subjects and any specific learning difficulties, behavioral history in social and family settings, family psychiatric history (given the high heritability of ADHD), birth and developmental history, and any medical conditions that might contribute to attention and behavioral difficulties (including thyroid disease, anemia, epilepsy, sleep disorders, anxiety, and depression).

Rating scales are an important adjunct to clinical judgment in ADHD assessment. The Conners' Rating Scales and the Vanderbilt ADHD Diagnostic Rating Scales are widely used in research and clinical practice, and parent and teacher versions of these scales provide multi-informant assessment of ADHD symptoms across settings. These scales have not been formally validated in Bangla-speaking populations, and the development of culturally validated Bangladeshi assessment instruments for ADHD is an important research priority. Nevertheless, translated versions of these scales are used in clinical practice in Bangladesh and provide useful structured information alongside the clinical interview.

The contribution of teachers and school information to ADHD assessment is critically important because the core diagnostic criterion that symptoms must be present across multiple settings means that school-based information is essential for diagnosis. In Bangladesh, obtaining structured teacher information can be challenging because of teachers' workloads, limited awareness of ADHD, and the distance between clinical services (concentrated in cities) and the schools where children are educated. Creative approaches to gathering school information, including structured phone interviews with teachers and the use of simplified teacher questionnaires designed for use by clinicians, are needed.

Medical investigation in ADHD assessment should include physical examination, vision and hearing testing, and targeted investigation for specific conditions that may mimic or co-occur with ADHD, including thyroid function testing, complete blood count (for anemia, which can cause impaired concentration), and EEG if there is any clinical suspicion of epilepsy or seizure-related behavioral change.

89.4 Treatment of ADHD in Bangladesh: Pharmacological Approaches

The pharmacological treatment of ADHD is one of the best-studied areas in all of child psychiatry, with an extensive evidence base from randomized controlled trials and meta-analyses supporting the effectiveness of both stimulant and non-stimulant medications.

Methylphenidate (MPH) is the most widely used and most extensively studied pharmacological treatment for ADHD globally. It acts primarily by blocking the reuptake of dopamine and norepinephrine in the synapse, increasing the availability of these neurotransmitters in prefrontal circuits and thereby improving attention, impulse control, and executive function. Multiple systematic reviews and meta-analyses, including the comprehensive 2018 Lancet

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Psychiatry network meta-analysis by Cortese and colleagues, confirm that methylphenidate is among the most effective treatments available for ADHD in children and adolescents, with effect sizes that are clinically meaningful and that compare favorably with those of pharmacological treatments for other psychiatric conditions.

In Bangladesh, methylphenidate is available but is not widely used. The barriers to its use include limited ADHD diagnosis (no diagnosis means no prescription), limited prescribing by non-psychiatrists (who see the majority of children), cost (methylphenidate is not subsidized by the government and is not affordable for many families), stigma (there is significant public concern in Bangladesh about "medicating" children and about the use of "mind-altering drugs"), and limited awareness among clinicians about appropriate indication and monitoring.

Amphetamine-based stimulants (lisdexamfetamine, mixed amphetamine salts) are not routinely available in Bangladesh and are not a practical consideration for the current clinical context.

Non-stimulant medications with evidence for ADHD include atomoxetine (a selective norepinephrine reuptake inhibitor), guanfacine extended-release (an alpha-2 adrenergic agonist), and clonidine (an older alpha-2 agonist). Atomoxetine is particularly useful in several clinical situations where stimulants are not appropriate or have not been effective: in individuals with comorbid anxiety (stimulants can worsen anxiety), in those with a history of substance use disorders (stimulants have abuse potential), in those with significant tic disorders (stimulants can worsen tics), and in those for whom the timing and duration of medication effects is problematic. Atomoxetine has a slower onset of action than stimulants (4 to 6 weeks for full effect) but a longer duration and continuous coverage without the wearing-off effects that short-acting stimulants produce. It is available in Bangladesh, though expensive.

The monitoring of ADHD pharmacological treatment should include regular assessment of symptom control (using standardized rating scales as well as clinical judgment), height and weight monitoring (stimulants can suppress appetite and slightly slow growth velocity in children), blood pressure and heart rate monitoring, and assessment for side effects including sleep difficulties, mood changes, and, rarely, cardiovascular effects.

89.5 Psychological and Educational Interventions for ADHD

Pharmacological treatment of ADHD should be embedded within a comprehensive management plan that includes psychological, behavioral, and educational components. While the effect sizes for pharmacological treatment are larger than those for behavioral interventions in most studies, the combination of medication and behavioral approaches typically produces better outcomes than either alone, and for younger children (below six years of age) and in mild presentations, behavioral intervention may be the preferred first-line approach.

Parent training programs for parents of children with ADHD are among the most evidence-based psychosocial interventions available. Programs such as the New Forest Parenting Programme (NFPP), Triple P (Positive Parenting Program), and Incredible Years are designed to help parents understand the neurobiological basis of their child's behavior, develop effective strategies for managing difficult behaviors, establish consistent and positive parenting routines,

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and reduce their own stress and sense of burden. These programs have been evaluated in multiple randomized controlled trials and have been adapted for delivery in lower-resource settings, including simplified versions deliverable by trained community health workers. The adaptation and testing of such programs in Bangladesh is a significant research and implementation priority.

Cognitive training programs designed to target specific executive function deficits associated with ADHD, including working memory training programs such as Cogmed, have been evaluated in randomized controlled trials with mixed results. The evidence for transfer of training effects from computerized cognitive training to real-world functioning is not strong, and these approaches should not be regarded as substitutes for more comprehensive behavioral intervention or pharmacological treatment.

School-based accommodations and support are essential for the educational success of children with ADHD. These include preferential seating near the teacher, chunking of tasks into shorter segments, frequent breaks, extended time for examinations, organizational support (checklists, planners, teacher reminders), and behavioral support through positive reinforcement systems. In Bangladesh, the implementation of these accommodations requires awareness among teachers and school administrators, which requires systematic teacher training on ADHD and neurodevelopmental conditions more broadly.

CHAPTER NINETY: INTELLECTUAL DEVELOPMENTAL DISORDER - CLINICAL SCIENCE, EPIDEMIOLOGY, AND BANGLADESH CONTEXT

90.1 Defining Intellectual Developmental Disorder

Intellectual developmental disorder (IDD), formerly called mental retardation (a term now considered stigmatizing and obsolete), intellectual disability, or intellectual handicap, is defined in both ICD-11 and DSM-5-TR as a condition characterized by significant limitations both in intellectual functioning (reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience) and in adaptive behavior (conceptual, social, and practical adaptive skills). These limitations originate during the developmental period.

The diagnosis of IDD requires assessment in three domains. Intellectual functioning is assessed using standardized, individually administered psychometric tests of intelligence such as the Wechsler Intelligence Scales, the Stanford-Binet Intelligence Scales, or similar culturally validated instruments. An intelligence quotient (IQ) score that is approximately two or more standard deviations below the population mean (approximately IQ 70 or below, corresponding to approximately the 2nd percentile) indicates a significant limitation in intellectual functioning. However, the IQ score alone is insufficient for diagnosis; adaptive behavior must also be significantly limited.

Adaptive behavior refers to the collection of conceptual, social, and practical skills that people have learned to be able to function in their everyday lives. Conceptual adaptive skills include

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language, reading, writing, mathematics, reasoning, and knowledge. Social adaptive skills include interpersonal skills, responsibility, self-esteem, social problem-solving, ability to follow rules, and ability to avoid being victimized. Practical adaptive skills include activities of daily living (eating, dressing, mobility, toileting), occupational skills, healthcare management, travel, and use of money and communication devices.

The shift from the older IQ-based definition, which defined intellectual disability solely by IQ score, to the current emphasis on adaptive behavior alongside intellectual functioning is conceptually important. It recognizes that a person's functional disability depends not only on their intellectual abilities but on how those abilities interact with the demands and support available in their environment. A person with an IQ of 65 may function very differently in a rural Bangladeshi village, where life demands are familiar and predictable and where community support structures are in place, compared to an urban professional environment demanding literacy, numeracy, and complex social navigation.

IDD is classified by severity into four levels. Mild IDD (approximately IQ 50 to 70) is the most common, accounting for approximately 85 percent of all cases. Individuals with mild IDD typically acquire academic skills to approximately a sixth-grade level, can achieve social and vocational adequacy with appropriate support, and with appropriate support may live largely independently. Moderate IDD (approximately IQ 35 to 50) accounts for approximately 10 percent of cases. Individuals with moderate IDD may achieve academic skills to approximately a second-grade level and with supervision can care for themselves adequately and contribute to workshops or other supported employment settings. Severe IDD (approximately IQ 20 to 35) accounts for approximately 3 to 4 percent of cases, and individuals in this range require extensive support for most activities of daily living. Profound IDD (IQ below 20) accounts for approximately 1 to 2 percent of cases; individuals with profound IDD typically have limited or no communication and require pervasive support for all activities.

90.2 Causes of Intellectual Developmental Disorder

The causes of intellectual developmental disorder are extraordinarily heterogeneous, encompassing genetic conditions, prenatal exposures, perinatal events, postnatal insults, and complex interactions among these categories. An estimated 40 to 50 percent of IDD in high-income countries has an identifiable etiology, but the figure in low-income countries may be lower due to limited access to genetic testing. The identification of etiology has important implications for prognosis, management, and family counseling, particularly regarding recurrence risk.

Genetic causes of IDD include chromosomal abnormalities (Down syndrome caused by trisomy 21 is the most common identifiable chromosomal cause, accounting for approximately 5 to 6 percent of all IDD), specific genetic syndromes (Fragile X syndrome, Angelman syndrome, Prader-Willi syndrome, Williams syndrome, and hundreds of others), and de novo mutations in genes critical for brain development (which are increasingly identifiable through whole-exome sequencing). In Bangladesh, consanguineous marriage increases the risk of autosomal recessive conditions, many of which present with intellectual disability, and this is a particularly important epidemiological consideration.

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Prenatal causes include maternal infections (rubella, cytomegalovirus, toxoplasmosis, congenital syphilis), maternal substance use (fetal alcohol spectrum disorder is the most common preventable cause of IDD), iodine deficiency (cretinism from prenatal iodine deficiency remains a cause of preventable IDD in some parts of Bangladesh, though universal salt iodization has dramatically reduced its prevalence), and severe maternal malnutrition. Teratogenic exposures including anticonvulsant medications (particularly valproate), environmental toxins (methylmercury, lead, polychlorinated biphenyls), and radiation are also established causes.

Perinatal causes include birth asphyxia (hypoxic-ischemic encephalopathy), extreme prematurity and its complications (intraventricular hemorrhage, periventricular leukomalacia), neonatal hypoglycemia, neonatal meningitis, and Rh hemolytic disease of the newborn. These perinatal causes are particularly important in Bangladesh, where skilled birth attendance, neonatal care, and access to obstetric emergency care, while greatly improved over the past two decades, remain imperfect, particularly in rural areas.

Postnatal causes include central nervous system infections (bacterial meningitis, viral encephalitis), traumatic brain injury, severe and prolonged nutritional deficiency, lead poisoning, and extreme psychosocial deprivation in early childhood. The last of these is important in Bangladesh in the context of severe institutional neglect, child labor conditions, and the documented effects of severe poverty on cognitive development.

90.3 Down Syndrome: A Special Consideration

Down syndrome, caused by the presence of an extra copy of chromosome 21 (trisomy 21), is the most common identifiable chromosomal cause of intellectual disability and deserves specific consideration in the Bangladesh context. The birth prevalence of Down syndrome is approximately 1 in 700 to 1000 live births globally, and it is associated with characteristic physical features (including the recognizable facial appearance, hypotonia, single palmar crease, and others) as well as with intellectual disability of severity ranging from mild to moderate, and with a range of associated medical conditions including congenital heart disease (present in approximately 50 percent of cases), hypothyroidism, Hirschsprung's disease, celiac disease, leukemia, and early-onset Alzheimer's disease.

In Bangladesh, prenatal diagnosis of Down syndrome through amniocentesis or chorionic villus sampling is available but not widely accessible outside major tertiary hospitals and is expensive. Advanced maternal age is the most important risk factor for Down syndrome, and Bangladesh's pattern of relatively young maternal age at first birth may mean that the proportion of Down syndrome attributable to advanced maternal age is lower than in high-income countries. However, the absolute birth prevalence is unlikely to differ substantially from the global figure, meaning that several thousand children with Down syndrome are born in Bangladesh each year.

The management of Down syndrome in Bangladesh requires attention to the medical complications of the condition (congenital heart disease screening and management, thyroid function testing, vision and hearing assessment, monitoring for Hirschsprung's disease in newborns), to the educational and developmental support needs of children with Down

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syndrome, and to family support. The prognosis for children with Down syndrome with appropriate medical management and educational support is considerably better than was believed even three decades ago: life expectancy has increased substantially, and with appropriate support, many individuals with Down syndrome achieve significant functional independence and meaningful participation in community life.

90.4 Epidemiology of Intellectual Developmental Disorder in Bangladesh

The epidemiology of intellectual developmental disorder in Bangladesh is substantially undercharacterized by the available data. Estimates of IDD prevalence in Bangladesh from various sources range from approximately 1.4 to 2.5 percent of the population, broadly consistent with global estimates. The National Mental Health Survey Bangladesh 2019 identified intellectual disability as present in approximately 1.8 percent of the surveyed population, but this figure is likely an underestimate given the methodological challenges of identifying IDD in population surveys.

The Global Burden of Disease 2021 data analyzed in a 2025 study found that India had the highest prevalence and DALY burden for intellectual disability among countries analyzed, with implications for the broader South Asian region, including Bangladesh. The same study noted that intellectual disability remained the most common neurodevelopmental disorder in low- and middle-income countries in their systematic review, with a pooled prevalence of approximately 6 percent in this subgroup analysis.

The causes of IDD in Bangladesh reflect the specific epidemiological context. Birth asphyxia, neonatal meningitis, and other perinatal causes are likely to contribute more to the IDD burden in Bangladesh than in high-income countries, given the ongoing challenges in obstetric and neonatal care in parts of the country. Consanguineous marriage and the resulting risk of autosomal recessive conditions contribute to the genetic IDD burden. Environmental risk factors including lead exposure, arsenic contamination of drinking water, and nutritional deficiencies (iodine deficiency in some areas, iron deficiency across the population) add to the overall burden.

The GBD 2021 data, analyzed in a 2025 Tandfonline study on global developmental disability trends among children and adolescents aged 0 to 19, found that intellectual disability showed distinct age-specific prevalence patterns, with the highest prevalence among children aged 5 to 14 years. The analysis also found that the burden of intellectual disability was disproportionately higher in lower sociodemographic index (SDI) regions, reflecting the role of social and environmental determinants in IDD causation and the insufficiency of health and social systems to identify and support affected individuals.

CHAPTER NINETY-ONE: ASSESSMENT AND MANAGEMENT OF INTELLECTUAL DEVELOPMENTAL DISORDER IN BANGLADESH

91.1 Clinical Assessment of Intellectual Developmental Disorder

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The assessment of intellectual developmental disorder requires a multidisciplinary approach involving medical, psychological, educational, and social dimensions. The goals of assessment are to confirm the diagnosis, identify the etiology where possible, characterize the profile of strengths and weaknesses, identify associated conditions that require management, and provide the foundation for an individualized support plan.

The medical history in IDD assessment is particularly important and should be comprehensive. Prenatal history should cover maternal health, infections during pregnancy, medications taken during pregnancy, alcohol or drug use, exposure to environmental toxins, and antenatal care attendance. The birth history should cover gestational age, birth weight, mode of delivery, complications during labor and delivery, and the condition of the baby at birth (Apgar scores, resuscitation required). The neonatal history should cover any periods of jaundice (especially if requiring treatment), infections, feeding difficulties, and early developmental concerns. The developmental history should systematically cover the age at which the child achieved motor, language, and social milestones, any regression (loss of previously acquired skills) and its circumstances, and the current profile of functional abilities.

Family history is critical in IDD assessment, both for identifying hereditary conditions and for estimating recurrence risk. Information should be gathered about intellectual disability, developmental disorders, genetic syndromes, and unexplained early deaths in all first and second degree relatives, and about the degree of consanguinity between the parents.

Physical examination in IDD assessment is a fundamental clinical investigation. Dysmorphic features may point toward a specific genetic syndrome. Head circumference is an important measurement: microcephaly (small head) may indicate abnormal brain development, while macrocephaly (large head) may suggest certain specific conditions. Skin examination may reveal the hypopigmented macules of tuberous sclerosis or the port-wine stain of Sturge-Weber syndrome. Ophthalmological and audiological examination should be routine, since visual and hearing impairments can contribute to developmental delay and may be treatable.

Psychometric assessment is the cornerstone of the IDD diagnostic process. The selection of an appropriate intelligence test requires consideration of the individual's age, language abilities, and cultural background. In Bangladesh, the Wechsler Intelligence Scale for Children (WISC-IV or WISC-V) in Bangla translation is available and has been used in research and clinical settings, though formal normative data for Bangladeshi populations is limited. For preschool children, the Bayley Scales of Infant and Toddler Development and the Griffiths Mental Development Scales are commonly used. For individuals who are nonspeaking or minimally verbal, nonverbal tests such as the Leiter International Performance Scale are more appropriate. Adaptive behavior assessment using instruments such as the Vineland Adaptive Behavior Scales complements psychometric assessment and provides information about functional abilities in everyday life.

Neuroimaging in IDD assessment should be performed when there are neurological signs, unexplained regression, macrocephaly, microcephaly, dysmorphic features suggestive of a structural brain abnormality, or clinical suspicion of treatable underlying pathology. MRI is preferred over CT because of its superior resolution for assessment of brain structure without

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radiation exposure. Characteristic MRI patterns associated with specific genetic syndromes (including pachygyria, lissencephaly, polymicrogyria, and periventricular heterotopia) can be diagnostically important.

Genetic investigations should be individualized based on the clinical picture. Chromosomal microarray analysis (CMA) has replaced conventional karyotype as the first-line genetic investigation for unexplained IDD in high-income countries, because it detects a wider range of chromosomal copy number variants at higher resolution. In Bangladesh, CMA is available in a limited number of specialist centers but is expensive. Conventional karyotype (which detects chromosomal abnormalities at a lower level of resolution, including Down syndrome, Turner syndrome, Klinefelter syndrome, and gross chromosomal rearrangements) is more widely available and remains clinically appropriate as a first-line investigation in many Bangladesh settings. Fragile X testing (FMR1 gene analysis) should be performed in males with unexplained moderate to severe IDD.

Metabolic screening for treatable inborn errors of metabolism is important in the assessment of IDD, particularly in cases where the IDD is associated with regression, progressive deterioration, unexplained medical complications, or a family history of similarly affected relatives. Newborn screening programs that detect conditions such as phenylketonuria, hypothyroidism, and galactosemia allow early treatment before irreversible brain damage occurs, but newborn screening in Bangladesh is not yet universal or comprehensive.

EEG assessment is indicated when there is clinical suspicion of epilepsy, which co-occurs with IDD in approximately 20 to 30 percent of cases, or when there is unexplained regression that might reflect subclinical seizure activity.

91.2 Management of Intellectual Developmental Disorder

The management of intellectual developmental disorder in Bangladesh requires a comprehensive, individualized, family-centered approach that spans medical, psychological, educational, and social domains. It is a lifelong endeavor, because IDD is a chronic condition whose management needs evolve across the developmental trajectory from early childhood through adulthood.

Early intervention is the most important single principle of IDD management, for exactly the same reason it is important in autism: the first five years of life, when brain plasticity is at its peak, represent the window of greatest opportunity for intervention to improve developmental outcomes. Early intervention programs for children with IDD focus on stimulating development across all domains through structured, individualized, play-based activities that build motor skills, communication, social skills, and cognitive abilities. These programs are most effective when they involve parents and caregivers as active participants rather than passive recipients, because the quantity and quality of stimulation the child receives in the home environment over the full waking day is far more influential than what can be delivered in a clinical session.

The Portage program, a home-based early intervention program developed in Wisconsin in the 1970s and adapted for use in many developing countries, provides a practical framework for

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training parents to deliver structured developmental activities to young children with developmental disabilities. The program uses a developmental checklist to identify the child's current level and to set achievable targets, and a home visitor (who can be trained as a community health worker rather than requiring specialist qualifications) guides the parent in delivering targeted activities. The Portage program has been used in several South Asian countries including India and Pakistan and provides a model for what could be developed and scaled in Bangladesh.

The educational needs of children and young people with IDD require a system of supports that ranges from intensive, individually focused programming for those with severe and profound disability to inclusion support for those with mild IDD who are capable of participating in mainstream education with appropriate adaptations. In Bangladesh, the special school system provides the most structured educational provision for children with IDD, but as noted above, the reach of this system is limited to urban areas and a small fraction of the total population with need. Community-based rehabilitation (CBR), which delivers support to disabled individuals within their community rather than in specialized institutions, offers a more scalable model and has been implemented with some success by NGOs in Bangladesh. The CBR model includes educational support, skill development, livelihood support, and social integration as components, and can be delivered by trained community workers rather than specialist professionals.

Medical management in IDD addresses associated conditions, treats treatable underlying causes where identified, and provides symptomatic relief for behavioral challenges. The pharmacological management of challenging behaviors in IDD (including self-injurious behaviors, aggression, and severe stereotypies) follows similar principles to pharmacological management in autism: risperidone and aripiprazole have the most evidence for reducing irritability, but should be used with caution given the side effect profile and the importance of non-pharmacological approaches as first-line interventions.

Transition to adult services represents a particular vulnerability for individuals with IDD and their families. In Bangladesh, the adult services for people with intellectual disability are even more limited than the already inadequate child services. The transition from school to adult life, which is critical for determining employment, housing, social participation, and quality of life outcomes, receives almost no formal support in Bangladesh. The development of supported employment, independent living skills training, and adult social services for people with IDD represents a major unmet need that will require sustained policy attention and investment.

91.3 The Rights Framework for Intellectual Disability in Bangladesh

The recognition of the rights of people with intellectual disability has been one of the most important developments in this field globally over the past three decades. The United Nations Convention on the Rights of Persons with Disabilities (CRPD), adopted in 2006 and ratified by Bangladesh in 2007, establishes a comprehensive rights framework that applies to people with intellectual disability. The CRPD's core principle is that persons with disabilities must be seen as rights-holders, not merely as objects of charity, and that their rights to education, to work, to

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health, to political participation, and to legal personhood must be respected and actively promoted.

In Bangladesh, the translation of the CRPD into domestic law and policy has been partial and uneven. The Persons with Disability Rights Protection Act 2013 provides a legal framework for disability rights, including intellectual disability, but implementation has been hampered by institutional weakness, underfunding, and limited awareness among both public officials and the people the law is designed to protect. The Neurodevelopmental Disability Protection Trust Act 2013, specifically targeting autism, intellectual disability, Down syndrome, and cerebral palsy, represents an important institutional commitment but has not been fully implemented.

The issue of legal capacity deserves specific attention. The CRPD's Article 12 requires that people with disabilities have legal capacity on an equal basis with others, and that states provide access to support to exercise legal capacity rather than substituting others' judgment for the person's own. In Bangladesh, as in most countries, the legal system for persons with intellectual disability is based on a substituted decision-making model (guardianship) rather than a supported decision-making model, and the reform of this legal framework to comply with the CRPD's requirements is an important human rights priority.

CHAPTER NINETY-TWO: OTHER NEURODEVELOPMENTAL DISORDERS

92.1 Specific Learning Disorders

Specific learning disorders (SLD) are neurodevelopmental conditions characterized by significant difficulty in learning and using academic skills in one or more areas including reading, written expression, or mathematics, that are not explained by intellectual disability, inadequate educational instruction, sensory problems, or other mental disorders. DSM-5-TR specifies three major subtypes: impairment in reading (which includes what has historically been called dyslexia), impairment in written expression (dysgraphia), and impairment in mathematics (dyscalculia).

Dyslexia is the most prevalent and most studied specific learning disorder, estimated to affect approximately 5 to 15 percent of the population across different studies and definitions. The core difficulty in dyslexia involves phonological processing, specifically the ability to identify and manipulate the sound structure of words. Because written language represents sounds in an alphabetic system, difficulty with phonological processing creates specific difficulty in learning to decode written words. Dyslexia is highly heritable, with genetic studies identifying multiple variants in genes involved in cortical neuronal migration (including DCDC2, KIAA0319, ROBO1) as contributing to dyslexia risk.

The recognition of specific learning disorders in Bangladesh is extremely limited. The educational system generally does not recognize dyslexia or other SLDs as legitimate explanations for poor academic performance; children who cannot learn to read despite instruction are more commonly labeled as lazy, intellectually limited, or behaviorally difficult.

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This lack of recognition has serious consequences: children with unrecognized SLDs typically have profoundly negative educational experiences, develop secondary emotional and behavioral difficulties, fail to achieve their educational potential, and enter adult life without the literacy and numeracy skills they need for economic independence and civic participation.

The assessment of SLDs in Bangladesh is complicated by the limited availability of standardized reading and literacy tests calibrated for Bangla language skills, and by the limited training of psychologists and educators in SLD assessment. Nevertheless, clinical assessment of a child presenting with specific difficulties learning to read, write, or calculate should include assessment of intellectual ability (to ensure that the specific learning difficulty is not part of a global intellectual deficit), assessment of phonological awareness and processing, assessment of reading accuracy, fluency, and comprehension using age-appropriate tests, and assessment for co-occurring ADHD and anxiety, which are common in children with SLDs.

The management of SLDs is primarily educational, centered on specialized reading instruction using evidence-based methods. For dyslexia, the most evidence-supported approaches are structured literacy programs that systematically teach phonemic awareness, phonics, fluency, vocabulary, and comprehension, using multisensory techniques. These approaches have been developed and evaluated primarily in English-speaking populations, and their adaptation for Bangla, which has its own distinct phonological structure and script, is an important and underexplored research priority. The provision of appropriate accommodations in educational settings, including extended time for examinations, access to text-to-speech technology, and the option of oral rather than written assessment, is also an important component of support for students with SLDs.

92.2 Communication Disorders

The ICD-11 and DSM-5-TR recognize several specific developmental disorders of speech and language that represent significant disruptions in the normal acquisition and use of communication. These include developmental language disorder (DLD), characterized by significant difficulties in receptive and/or expressive language use that are not attributable to sensory impairment, intellectual disability, or lack of exposure to language; speech sound disorder (phonological disorder and articulation disorder), characterized by difficulties in the acquisition of speech sounds; childhood-onset fluency disorder (stuttering), characterized by disruptions in the fluency and time patterning of speech; and social (pragmatic) communication disorder, characterized by difficulties in the social use of language in the absence of the restricted, repetitive behaviors that characterize autism.

Stuttering deserves specific mention in the Bangladesh context because of its cultural significance. Stammering is common across cultures (estimated prevalence approximately 1 percent in adults), is often associated with shame and social stigma, and has specific cultural resonance in Bangladesh where public speaking is highly valued and communication fluency is strongly associated with social and occupational status. The management of stuttering has advanced significantly in recent years, with the Lidcombe Program (a parent-implemented behavioral intervention for young children who stutter) and more recently the Camperdown

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Program (for adolescents and adults) providing evidence-based approaches that are potentially adaptable for use in Bangladesh.

Developmental language disorder is important in Bangladesh because unrecognized DLD in schoolchildren can be misattributed to intellectual disability or ADHD, leading to inappropriate educational placement and missed opportunities for targeted speech-language intervention. The development of trained speech-language pathologists in Bangladesh, currently a very small profession, is an important health system priority.

92.3 Motor Development Disorders

Developmental coordination disorder (DCD), also known as dyspraxia, is characterized by significant difficulty in acquiring and executing coordinated motor skills relative to what would be expected given the individual's age and level of cognitive ability, producing significant functional impairment in academic learning and everyday activities. DCD is estimated to affect approximately 5 to 6 percent of school-age children and is frequently missed in the Bangladeshi clinical context.

Tic disorders, including simple motor and vocal tics, chronic tic disorder, and Tourette's syndrome (characterized by multiple motor tics and at least one vocal tic, present for at least one year), are common neurodevelopmental conditions (prevalence of Tourette's syndrome approximately 0.5 to 1 percent) that are often misunderstood and stigmatized. In Bangladesh, tics may be attributed to supernatural causes or to naughtiness, and the diagnosis is rarely made in primary care settings. Tourette's syndrome has high rates of comorbidity with ADHD (present in approximately 50 to 60 percent of cases) and OCD (present in approximately 30 to 40 percent), and the management of these comorbidities is often as clinically important as the management of the tics themselves. Behavioral interventions (habit reversal training, the Comprehensive Behavioral Intervention for Tics or CBIT) have the best evidence base for tic management; pharmacological options include clonidine, guanfacine, haloperidol, and aripiprazole.

Stereotyped movement disorder, characterized by repetitive, seemingly driven, and apparently purposeless motor behaviors (such as hand-shaking, body-rocking, or head-banging) that are persistent and significantly interfere with normal activities, can occur both as a standalone condition and in association with intellectual disability. Severe stereotypies associated with IDD and autism can cause physical harm (particularly self-injurious stereotypies such as head-banging), and their management requires both behavioral analysis to identify maintaining factors and, in severe cases, pharmacological intervention.

CHAPTER NINETY-THREE: NEURODEVELOPMENTAL DISORDERS ACROSS THE LIFESPAN IN BANGLADESH

93.1 Early Childhood: The Critical Window

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The first five years of life represent the period of greatest developmental plasticity and the greatest opportunity for intervention. In Bangladesh, this critical window is frequently missed because the recognition of neurodevelopmental conditions is often delayed by months or years, because specialist assessment services are not accessible to most families, and because early intervention services are not available even when a diagnosis has been made.

The developmental surveillance system within Bangladesh's primary health care services, centered on the community health worker system (shasthya shabikas, shasthya kormis) and the upazila health centers, provides a potential platform for early developmental screening. The integration of simple developmental screening tools into routine well-child visits and immunization contacts, with clear referral pathways for children who screen positive, represents one of the most important and potentially impactful system-level interventions for improving the early identification of neurodevelopmental conditions in Bangladesh.

The M-CHAT (Modified Checklist for Autism in Toddlers), a widely used screening tool for autism in toddlers aged 16 to 30 months, has been used in research in Bangladesh and is feasible for use in clinical settings, though a formally validated Bangla version with locally appropriate cut-off scores is still needed. Simple developmental screening tools including the WHO Developmental Screens and the Ages and Stages Questionnaires (ASQ) have been used in South Asian settings and provide practical options for routine screening.

The cascade from screening positive on a developmental screening tool to receiving comprehensive assessment and appropriate intervention involves multiple steps, each of which can fail for the families of children with neurodevelopmental conditions in Bangladesh. The family must be willing and able to attend follow-up assessments. The referral pathway to specialist assessment must be functional. The specialist assessment must be available and affordable. The intervention recommended following assessment must be available, affordable, and accessible. And the family must have the capacity and support to engage with the intervention. Strengthening each link in this chain is necessary to improve outcomes, and the weakness of any one link can render even well-designed earlier steps futile.

93.2 School Age: Educational Inclusion and Its Challenges

The school years (approximately ages five to sixteen) are the period when neurodevelopmental conditions most prominently affect the individual's functioning, because the school environment places intense and sustained demands on the very cognitive and behavioral capacities that are affected by these conditions: attention, self-regulation, learning, language, social interaction, and fine motor skills.

The challenge of educational inclusion for children with neurodevelopmental conditions in Bangladesh has already been discussed in the context of autism. Similar challenges apply to children with ADHD, SLDs, DLD, IDD, and other neurodevelopmental conditions. The common threads are: mainstream schools generally lack the training, resources, and flexibility to accommodate children with neurodevelopmental differences; special school provision is too limited and geographically concentrated to meet the need; the examination-oriented, rote-learning culture of Bangladeshi education is particularly poorly matched to the learning styles

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of children with neurodevelopmental conditions; and children with unrecognized neurodevelopmental conditions are likely to be labeled as failures and to internalize a self-narrative of inadequacy that can have lifelong consequences for self-esteem, mental health, and ambition.

A comprehensive approach to educational inclusion for children with neurodevelopmental conditions in Bangladesh would need to include systematic teacher training on neurodevelopmental conditions (building awareness of autism, ADHD, SLDs, and IDD and their educational implications), the development of inclusive classroom practices that accommodate diverse learning styles (flexible seating, multiple means of assessment, peer support systems), the creation of special educational need coordinator (SENCO) roles within school systems to support the inclusion of children with special needs, the adaptation of the national curriculum to allow for differentiated learning outcomes for children who cannot access the mainstream curriculum, and the reform of examination systems to allow reasonable accommodations for students with neurodevelopmental conditions.

93.3 Adolescence: Identity, Transition, and Mental Health

Adolescence is a particularly challenging developmental period for young people with neurodevelopmental conditions. The social demands of adolescence, which center on peer relationships, social identity formation, and increasing independence from family, are precisely the areas that are most challenging for many autistic and ADHD adolescents. The academic demands of secondary school and examination preparation may exceed the capacity of young people with SLDs or ADHD even with accommodation. The awareness of one's own differences from peers, without necessarily having a diagnostic framework to make sense of those differences, can be profoundly damaging to self-esteem and wellbeing.

Mental health problems are extremely common in adolescents with neurodevelopmental conditions. Anxiety, depression, social isolation, and suicidal ideation are all significantly more prevalent in this group than in typically developing adolescents. In autistic adolescents, social masking and camouflaging of autistic characteristics can be extremely exhausting and can precipitate or worsen anxiety, depression, and social withdrawal. The recognition and treatment of mental health comorbidities in adolescents with neurodevelopmental conditions is a clinical priority that is often neglected because of the exclusive focus on the primary neurodevelopmental diagnosis.

The transition from school to adulthood is a critical juncture for young people with neurodevelopmental conditions. In high-income countries, transition planning typically begins several years before school leaving and addresses the domains of further education, employment, housing, healthcare, and social participation. In Bangladesh, formal transition planning does not exist for most young people with neurodevelopmental conditions, and the transition to adulthood represents a "cliff edge" at which the limited supports that were in place during schooling simply disappear.

93.4 Adulthood: Employment, Independence, and Quality of Life

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The adult outcomes of people with neurodevelopmental conditions in Bangladesh are a major but largely invisible public health concern. Because the care and support of adults with neurodevelopmental conditions falls almost entirely on families, and because families rarely seek or receive professional guidance about the management of adult autism, adult ADHD, or adult IDD, the quality of life of this population depends largely on the informal resources and capacities of individual families.

Employment outcomes for adults with autism and IDD in Bangladesh are generally very poor. The formal employment sector has no culture of disability inclusion, no expectations of reasonable accommodation, and no legal enforcement mechanism. Most adults with significant neurodevelopmental conditions who engage in any economic activity do so through family-based work or the informal sector. A small number of progressive NGOs have developed supported employment programs, but their reach is minimal.

The mental health of adult caregivers of people with neurodevelopmental conditions deserves recognition as a public health issue in its own right. The physical and emotional burden of providing intensive care for a family member with autism, IDD, or multiple neurodevelopmental conditions, often without any professional support, any respite care, or any financial assistance, is enormous. Depression, anxiety, and caregiver burnout are extremely prevalent among the parents and siblings who provide this care, and these mental health needs are themselves largely unaddressed by the health system.

CHAPTER NINETY-FOUR: PHILOSOPHICAL, ETHICAL, AND PUBLIC HEALTH PERSPECTIVES ON NEURODEVELOPMENTAL DISORDERS

94.1 The Philosophy of Neurodevelopmental Difference

The neurodevelopmental disorders raise philosophical questions of distinctive depth and importance. What is it to have a mind that works differently from the socially expected standard? What is the relationship between cognitive difference and personal identity? What moral status does cognitive disability confer, and what obligations does it generate in those around the person with disability? How do we balance the recognition of the genuine challenges that neurodevelopmental conditions can create with the recognition of the genuine capacities, perspectives, and value of people whose minds work differently?

The dominant philosophical framework in Western disability studies has shifted significantly over the past four decades, from what is called the "medical model" of disability to the "social model" of disability. The medical model regards disability as an attribute of the individual, a deficiency or impairment that resides within the person and that requires medical treatment aimed at reducing or eliminating it. The social model, associated with disabled rights activists and disability studies scholars, argues that disability is not an attribute of the individual but a relationship between the individual and their social environment: a person is disabled not by their impairment itself but by a physical and social environment that fails to accommodate their

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impairment. On this model, the appropriate response to disability is not to treat the individual but to change the environment.

The social model has been enormously valuable as a political and conceptual corrective to the paternalistic and medicalizing tendencies of the medical model. It has informed legislation and policy aimed at removing physical barriers, providing educational accommodations, and prohibiting discrimination against disabled people. And it has highlighted the genuine point that much of the functional disadvantage experienced by people with neurodevelopmental conditions is produced by environmental and social structures that could, in principle, be redesigned to be more accommodating.

However, the social model has also been criticized, including by disabled people themselves, for its tendency to bracket the experiential reality of impairment. For a person with profound intellectual disability, or for a person with severe autism who is in constant sensory distress, or for a child who cannot communicate their needs or their pain, the assertion that their disability is primarily a social construction may ring hollow. There is a real, biological reality to neurodevelopmental impairment, even if its consequences are heavily shaped by social context. A philosophical account of neurodevelopmental disability needs to hold both dimensions in view: the biological reality of neurological difference and the social reality of the environments that shape its consequences.

The philosopher Peter Singer's utilitarian analysis of severe intellectual disability, which has generated enormous controversy in bioethics, represents one extreme of the philosophical spectrum. Singer has argued, most controversially, that individuals with severe intellectual disability may lack the cognitive prerequisites for full moral personhood and that decisions about treatment and even life-sustaining care for such individuals should be made on quality-of-life grounds. These arguments, while logically coherent within their utilitarian framework, have been vigorously contested by disability rights advocates, who argue that cognitive ability is not the appropriate criterion for moral status and that the history of eugenics and institutionalization shows what happens when arguments about the cognitive limitations of disabled people are used to justify limitation of their rights.

The neurodiversity movement, as discussed in Chapter 83, offers a philosophical counter-narrative to both the medical model and Singer-style utilitarian frameworks. It insists on the full moral personhood of autistic and other neurodivergent individuals, on the value of their perspectives and experiences, and on the importance of changing the world to accommodate neurodevelopmental difference rather than attempting to eliminate it. This framework resonates strongly with the values of disability rights and social justice, and it has produced important advocacy achievements. Its limitation, as also noted earlier, is that it may not fully capture the reality of the most severe neurodevelopmental conditions.

A more integrated philosophical position, one that is consistent with the clinical approach advocated throughout this textbook, recognizes that neurodevelopmental differences span a wide range of severity, from those that are genuinely disabling and require substantial support to those that represent simply a different cognitive style that may confer both challenges and advantages. It insists on the full moral personhood and rights of all people with

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neurodevelopmental conditions regardless of their cognitive level. It recognizes both the biological reality of neurodevelopmental difference and the social construction of disability. It supports the provision of effective, compassionate, non-coercive support for individuals and families. And it advocates for the creation of social environments, including educational systems, workplaces, and communities, that are genuinely inclusive of cognitive diversity.

94.2 Ethical Issues in Neurodevelopmental Disorder Practice

The clinical and public health practice of neurodevelopmental disorders raises specific ethical issues that deserve careful attention.

Prenatal testing and screening for neurodevelopmental conditions, particularly for conditions with a strong genetic basis like Down syndrome, raises profound ethical questions about the relationship between disability, quality of life, and reproductive choice. The development of non-invasive prenatal testing (NIPT) that can detect chromosomal abnormalities associated with Down syndrome from maternal blood in early pregnancy has made prenatal testing more accessible and more widely used in high-income countries. The ethical questions around NIPT are contested: disability rights advocates have argued that the offer and uptake of prenatal testing for Down syndrome reflects and reinforces a devaluation of the lives of people with Down syndrome, while reproductive rights advocates insist on the right of prospective parents to make their own reproductive decisions based on accurate information. In Bangladesh, prenatal testing for Down syndrome is available but not widely used, and these ethical debates have not yet entered the mainstream of public or professional discourse.

The use of aversive behavioral interventions in autism and other neurodevelopmental conditions is a critical ethical issue. As noted above, early ABA programs used punishment (including electric shock in the most extreme cases) to suppress autistic behaviors. Electric shock devices for use in behavioral intervention for autism have been banned in many jurisdictions but remain in use in some institutional settings in some countries. In Bangladesh, the use of aversive interventions in settings for children with neurodevelopmental disabilities has not been systematically documented, but the potential for abuse in low-oversight institutional and residential settings is real and requires active monitoring.

Informed consent and decision-making capacity in people with intellectual disability is an ethically and practically complex area. People with mild intellectual disability can often participate meaningfully in decisions about their own care if information is presented in accessible formats and with appropriate support. People with severe or profound intellectual disability may be unable to understand or express their preferences about medical interventions, and decisions may need to be made on their behalf by designated decision-makers in consultation with clinicians. The ethical framework for supported decision-making, which the CRPD requires, has not yet been operationalized in Bangladesh law or practice.

The institutionalization of people with neurodevelopmental disabilities is an ongoing ethical concern in Bangladesh. While large-scale psychiatric institutions of the type that housed thousands of people with intellectual disability in twentieth-century Western countries do not exist in Bangladesh, smaller residential facilities operated by NGOs and religious organizations

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do exist, and their conditions and governance arrangements vary considerably. The rights of people living in these facilities to appropriate care, to freedom from abuse, and to contact with family and community must be protected.

94.3 Public Health Approaches to Neurodevelopmental Disorders in Bangladesh

The public health framework for neurodevelopmental disorders in Bangladesh must address the full range of determinants of neurodevelopmental outcomes: from the biological risk factors that can be modified through maternal and child health interventions, to the environmental risk factors that can be addressed through pollution control and nutritional programs, to the service system factors that can be addressed through health and education system strengthening, to the social and cultural factors that can be addressed through awareness campaigns and community engagement.

Primary prevention of neurodevelopmental disorders through reduction of known risk factors is an important public health priority. The most impactful specific interventions include: universal access to skilled birth attendance and neonatal care, which reduces birth asphyxia and neonatal infections as causes of preventable IDD; universal salt iodization, which prevents iodine deficiency as a cause of preventable IDD (Bangladesh has made substantial progress on this but coverage is not yet universal); reduction of prenatal alcohol and drug exposure through antenatal health promotion; reduction of environmental lead exposure through food safety regulation, occupational health standards, and remediation of contaminated sites; reduction of prenatal infection risk through vaccination (particularly rubella vaccination, which prevents congenital rubella syndrome as a cause of IDD and autism) and infection control; and genetic counseling for families with a history of genetic conditions and for consanguineous couples.

Secondary prevention through early identification and intervention is, as discussed extensively above, a major opportunity. The key system-level changes needed include: integration of developmental screening into routine maternal and child health contacts; building of referral pathways from community health workers to specialist assessment services; development and training of a community-level autism and neurodevelopmental disorder workforce; and expansion of specialist assessment capacity beyond Dhaka.

Tertiary prevention through the provision of effective rehabilitation, education, and support services for people living with neurodevelopmental conditions is the third pillar of the public health approach. This requires investment in special and inclusive education, in community-based rehabilitation, in adult services for people with neurodevelopmental conditions, and in support for family caregivers.

The social determinants of neurodevelopmental health deserve explicit attention in public health planning. Poverty, inadequate nutrition, environmental pollution, limited education, and the stress of social marginalization all worsen outcomes for people with neurodevelopmental conditions and their families. A public health approach to neurodevelopmental disorders in Bangladesh must be integrated with broader social and economic development strategies.

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CHAPTER NINETY-FIVE: CONTROVERSIES IN NEURODEVELOPMENTAL PSYCHIATRY

95.1 Is Autism a Disorder or a Difference? The Neurodiversity Debate Revisited

The most fundamental controversy in neurodevelopmental psychiatry concerns whether conditions like autism and ADHD should be understood as disorders (medical conditions that involve impairment and that warrant therapeutic intervention aimed at reducing their manifestations) or as differences (natural forms of human variation that deserve accommodation rather than treatment). This controversy is not merely academic; it has real consequences for how people with these conditions are treated, what kinds of services are funded, and what the goals of intervention are.

Advocates of the neurodiversity framework argue that autism, ADHD, and other neurodevelopmental conditions represent natural cognitive variation and that the distress and functional difficulty experienced by people with these conditions is primarily produced by a neurotypical-designed world that fails to accommodate their needs, rather than by the conditions themselves. On this view, the appropriate response is to change the world (through education system reform, workplace accommodation, social attitude change) rather than to "fix" the individual. They point out that many autistic adults report that they would not choose to be neurotypical if they could, that they experience their autism as an integral part of their identity rather than as a disease, and that the history of psychiatry is littered with examples of conditions that were once pathologized and are now understood as natural variation (homosexuality being the most often cited example).

Critics of the extreme neurodiversity position argue that it may represent the perspective of a particular subset of autistic people, specifically those with higher cognitive ability who can communicate their views effectively, and that it does not adequately represent the experience of those with more severe autism, profound intellectual disability, or severe behavioral dysregulation. They argue that denying the disorder framing risks denying people access to the services and supports they genuinely need, including medical and behavioral interventions that can significantly improve quality of life. And they argue that the disability, suffering, and functional impairment that severe autism and IDD can produce are real and that clinical responses to that suffering are appropriate and necessary.

The most intellectually honest position acknowledges that both perspectives capture something important: that neurodevelopmental differences are real variations in cognitive and neural architecture with genetic and biological foundations; that the consequences of these variations for functioning and wellbeing depend heavily on the fit between the individual's profile and the social environment; that some individuals with autism and other neurodevelopmental conditions would prefer not to be treated as disordered and would choose accommodation over therapy; that others experience significant distress and impairment and genuinely need and benefit from clinical support; and that the appropriate response in any individual case should be guided by the individual's own expressed preferences and needs, rather than by a one-size-fits-all ideological position.

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For Bangladesh, the immediate practical relevance of the neurodiversity debate is to inform advocacy for more respectful, less stigmatizing, and more person-centered approaches to neurodevelopmental conditions, while not denying the very real need for services and support that most families of children with autism and IDD in Bangladesh experience acutely.

95.2 The ADHD Epidemic: Overdiagnosis, Underdiagnosis, and Pharmaceutical Marketing

ADHD has been at the center of one of the most heated controversies in psychiatry for several decades. The criticism that ADHD is overdiagnosed, that its diagnostic criteria are too broad and capture a wide range of normal childhood behavior, and that the pharmaceutical industry has played an inappropriate role in expanding diagnosis and treatment, has been a persistent theme in both professional and public debate.

The concern about ADHD overdiagnosis has been given some empirical support by studies showing that children born near the cut-off date for school entry are significantly more likely to be diagnosed with ADHD than children born slightly earlier, suggesting that relative immaturity within a school year (rather than a genuine neurodevelopmental condition) is driving some diagnoses. This "relative age effect" has been documented in studies from the United States, Canada, and several European countries and raises legitimate questions about whether the behavioral immaturity of younger children in a class is being medicalized as ADHD.

On the other hand, the substantial body of neuroimaging, genetic, and long-term outcome research reviewed in Chapter 88 provides strong support for the view that ADHD, properly defined, is a genuine neurodevelopmental condition with identifiable biological correlates, a high heritability, and a chronic course associated with significant functional impairment and comorbid mental health problems. The concern about overdiagnosis, while legitimate in high-income countries with high diagnosis and treatment rates, has essentially no relevance to Bangladesh, where ADHD is massively underdiagnosed and undertreated.

The role of the pharmaceutical industry in the expansion of ADHD diagnosis and treatment deserves critical scrutiny. Stimulant medications for ADHD are among the most commercially successful pharmaceutical products in the history of psychiatry, and the pharmaceutical industry has invested heavily in promotional activities, research funding, and relationships with key opinion leaders that have arguably contributed to diagnostic expansion. However, the evidence base for the effectiveness of stimulant treatment in properly diagnosed ADHD is strong, and the concern about pharmaceutical influence should not translate into denial of effective treatment to individuals who genuinely need it.

95.3 The Autism Causation Controversies: Vaccines, Gut Health, and Environmental Factors

The claim that childhood vaccines, and specifically the measles-mumps-rubella (MMR) vaccine, cause autism is one of the most thoroughly discredited scientific claims in the history of medicine and one of the most harmful. The original 1998 Lancet paper by Andrew Wakefield that first suggested this link was found to have involved serious research misconduct, was retracted by the Lancet in 2010, and resulted in Wakefield losing his medical license. Multiple large-scale

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epidemiological studies involving millions of children have confirmed that there is no association between MMR vaccination and autism.

Despite the complete scientific consensus on this question, the anti-vaccine movement continues to cite autism as a concern about vaccines, and the resulting vaccine hesitancy has led to resurgences of measles and other vaccine-preventable diseases in multiple countries. In Bangladesh, where routine immunization coverage has been achieved through significant public health effort and where vaccine-preventable diseases have caused substantial child mortality in the recent past, vaccine hesitancy is a genuine public health threat that must be actively countered. The categorical message to parents and communities is that vaccines do not cause autism, that autism's causes are genetic and environmental (as reviewed in Chapter 84), and that the diseases prevented by vaccines pose far greater dangers to children than any of the conditions associated with vaccines in discredited research.

The relationship between the gut microbiome and autism has generated considerable research interest and some controversy. There is genuine evidence of differences in the composition of the gut microbiome between autistic and non-autistic individuals, and of bidirectional communication between the gut and the brain through the gut-brain axis that may influence neurodevelopment and behavior. However, the interpretation of these findings is contested: it is not established whether microbiome differences in autism are a cause of autistic characteristics, a consequence of dietary patterns that are common in autism (due to food selectivity), or an independent association with shared upstream causes. Claims that autism can be treated or prevented through probiotic supplementation or dietary manipulation are premature and not supported by robust clinical evidence.

95.4 The Diagnostic Process: Reliability, Validity, and Cultural Bias

The reliability and validity of neurodevelopmental disorder diagnoses have been subjects of ongoing debate. While the reliability of autism diagnosis using standardized instruments like the ADOS-2 and ADI-R is high in research settings, the reliability of autism diagnosis in routine clinical practice, where access to these instruments and their formal administration is often limited, is much more variable. Diagnostic disagreement between clinicians, diagnostic drift (diagnoses changing over time as more information becomes available or as the child develops), and the impact of access to services on diagnostic rates (areas with more assessment services tend to show higher rates of diagnosis, which may reflect improved detection or diagnostic inflation, or both) are all genuine challenges.

The cultural bias embedded in neurodevelopmental disorder assessment instruments is a significant concern for their use in Bangladesh and other non-Western settings. The behavioral benchmarks used in standardized autism assessment tools, including expectations about eye contact, pointing, and social engagement, are calibrated against Western, neurotypical norms of social behavior. In Bangladesh, cultural norms around eye contact (which may be avoided as a sign of respect in interactions between children and adults), pointing (which may be done with different gestures), and social engagement with strangers (which may be more restricted, particularly for children from purdah-observing families) may produce false positives on autism screening instruments among typically developing children. The development of culturally

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validated assessment tools for neurodevelopmental conditions in Bangla is an urgent research priority.

CHAPTER NINETY-SIX: COMPREHENSIVE CASE STUDIES FOR PART SEVEN

Case Study 96.1: Autism in a Rural Child - The Journey from Kabiraj to Diagnosis

Rahim is a five-year-old boy brought to the Child Development Centre at a divisional hospital by his mother, Nasrin, after a journey of several hours from their home in a rural upazila in Noakhali district. The referral was made by an NGO health worker who had visited the home as part of a community nutrition program and had noticed that Rahim did not respond to his name, did not make eye contact with visitors, and spent most of his time lining up small objects or staring at a spinning wheel with apparent fascination.

Nasrin describes that Rahim had appeared to develop normally until around 18 months, when he had said approximately ten words including "ma," "baba," and the names of several foods. Around that time, the family noticed that he stopped saying these words, stopped waving, and started spending increasing time alone. The family initially attributed this change to the death of Nasrin's mother, which had occurred around the same time, and assumed that Rahim was grieving.

When Rahim did not recover his speech over the following months, the family consulted a local kabiraj, who diagnosed possession by a jinn associated with the spirit of the deceased grandmother and performed a ritual using verses from the Quran and herbal smoke. This provided some temporary reassurance to the family but no improvement in Rahim's behavior. A village doctor subsequently prescribed a multivitamin and recommended prayer and patience.

As Rahim approached school age, the family became increasingly worried because he showed no interest in playing with other children, could not tolerate the noise and crowding of the marketplace, had very specific food preferences and would eat only a small number of foods (refusing anything with a particular texture), screamed for extended periods when his daily routine was disrupted, and had still not developed any useful speech. A neighbor's child had been diagnosed with autism at a private clinic in the divisional city, and the neighbor suggested that Rahim might have the same condition.

At the Child Development Centre, Rahim is assessed by a multidisciplinary team including a pediatric neurologist, a child clinical psychologist, and a speech-language therapist. He does not respond to his name during the assessment, does not make eye contact, and is clearly distressed by the unfamiliar environment, pressing his hands over his ears and rocking rhythmically. He shows some interest in a spinning top on the assessment table, spinning it repeatedly and watching the rotation with apparent absorption. He does not engage in pretend play when toys are offered and does not imitate the clinician's actions. He has no functional verbal communication, though he occasionally vocalizes with what appear to be attempts at specific sounds.

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Cognitive assessment using the nonverbal Leiter scale estimates his developmental level at approximately 30 to 36 months, significantly below his chronological age of 60 months. Adaptive behavior assessment using parent interview estimates his adaptive functioning at a similarly delayed level. A structured behavioral observation using an adapted ADOS-2 confirms significant impairment in social communication, joint attention, and engagement, with the restricted and repetitive behaviors noted above. EEG is performed because of a brief reported episode of behavioral arrest and eye deviation: it shows a normal background rhythm but one isolated left temporal sharp wave, and EEG monitoring is recommended.

The diagnosis of autism spectrum disorder with accompanying intellectual impairment and accompanying language impairment is made. The team also notes severe sensory hypersensitivity as a significant clinical feature. Genetic investigations are requested, including chromosomal microarray analysis, which the family is advised to pursue as resources allow. A Fragile X test is performed and returned negative.

The clinical team's communication with Nasrin and the accompanying family members is carefully managed. The pediatric neurologist explains that Rahim's condition is a neurodevelopmental condition, not a spiritual affliction and not a consequence of anyone's actions. He acknowledges that many families in Bangladesh have sought help from spiritual healers before reaching the clinic, and that this is understandable, while being clear that the medical evidence shows that autism does not respond to spiritual interventions alone. He explains what autism means in terms that are accessible and culturally grounded, drawing on the concept of the brain as the "aql" (reason, mind) and framing autism as a difference in the development of the aql that means Rahim needs different kinds of support to develop his abilities than most children. The importance of starting intervention quickly is emphasized.

A management plan is developed that includes enrollment in the nearest available special school (which is in the divisional city and will require the family to make significant arrangements for Rahim's transportation or relocation), weekly speech-language therapy sessions focused on developing augmentative communication systems (initially using pictures, with a goal of introducing a simple AAC device as resources allow), parent training for Nasrin and the family on managing sensory difficulties, maintaining structured routines, and encouraging communication in naturalistic settings, and follow-up at the Child Development Centre in three months with interim contact via the NGO health worker who made the referral.

The case illustrates several themes of central importance in this Part. The typical help-seeking trajectory in Bangladesh (supernatural first, medical second) and its consequences for the timing of diagnosis. The role of the community health worker network as a potential point of early identification. The complexity of the diagnostic assessment and the importance of a multidisciplinary approach. The critical importance of respectful, culturally grounded communication in breaking the diagnosis to the family. And the gap between the needs of the family and the available services, which this family must bridge through their own resources.

Case Study 96.2: ADHD in an Urban Schoolgirl - The Invisible Disorder

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Sharmin is a thirteen-year-old girl who is brought to a child psychiatry outpatient clinic by her father, a secondary school teacher. Sharmin's father has come to the clinic at the suggestion of Sharmin's form teacher, who has sent home a letter expressing concern about Sharmin's academic performance and suggesting that she may need "extra tuition or medical help." Sharmin's father is embarrassed and somewhat resentful of the suggestion that his daughter might have a mental health problem; he has been told by neighbors that her difficulties are the result of "too much time on her phone" and he has already confiscated her device.

Sharmin sits quietly in the clinic room, looking at her lap, occasionally glancing up with what appears to be a mixture of anxiety and resignation. When asked about school, she describes herself as "stupid." She says that she tries very hard but cannot seem to keep up with the class, that she finds it impossible to concentrate during lessons even when she wants to, that she frequently loses track of what the teacher is saying and finds herself thinking about other things without intending to, and that she often fails to complete assignments not because she does not understand what to do but because she becomes distracted and cannot sustain her attention long enough to finish. She says that she can spend hours on tasks that interest her, including drawing and listening to music, and that this has been cited by her father as evidence that she is "choosing not to concentrate" in school.

A detailed history reveals that Sharmin has struggled with attention and organization since early primary school, though her difficulties were less apparent then because the curriculum was simpler and the demands less intense. She was described by earlier teachers as "a dreamer" who was sometimes "away with the fairies." She has never been hyperactive and has never been a behavioral problem in school. Her friendships are few and somewhat difficult to maintain because she sometimes seems distracted or inattentive during conversations, and she finds the social complexity of the teenage female peer group exhausting and confusing.

On further history, Sharmin's father recalls that he himself struggled significantly with similar difficulties in school and university, though he managed because he was "interested in his subjects" and was supported by a very structured home environment. He has been impulsive throughout his adult life and has had multiple minor accidents that in retrospect he attributes to inattention.

Psychometric assessment reveals that Sharmin's intellectual ability is in the average to above-average range. Her working memory and processing speed scores are significantly lower than her verbal reasoning and perceptual reasoning scores, a cognitive profile characteristic of ADHD. A parent rating scale (Conners' Parent Rating Scale, Bangla translated version) shows significant elevations on inattentive subscales with no elevation on hyperactive-impulsive subscales. A teacher rating form, obtained by letter from Sharmin's form teacher, confirms similar concerns about inattention and organization in the classroom. The assessment meets criteria for ADHD, predominantly inattentive presentation.

The management plan includes psychoeducation for Sharmin and her father about ADHD, with particular emphasis on challenging the "lazy" and "stupid" narratives that Sharmin has internalized. The explanation is framed around the brain's attention system: Sharmin's brain has a particular difficulty with regulating and sustaining attention in response to mild or low-

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preference demands, which is a neurobiological difference, not a character flaw or a choice. This reframing is met with visible relief by Sharmin, who says "so I'm not just stupid?" and by a somewhat troubled silence from her father, who begins to reflect on his own academic and professional difficulties in a new light.

A school letter is provided explaining Sharmin's diagnosis and requesting specific accommodations: preferential seating near the teacher, permission to submit assignments in stages rather than all at once, extended time in examinations, and regular brief check-ins from the form teacher. Methylphenidate is discussed with the family as a pharmacological option; the father is initially very resistant, citing concerns about "medication for the brain" and the possibility of addiction, and a careful discussion of the evidence, the risks, and the benefits is conducted. The decision is made to start with a trial of low-dose methylphenidate with careful monitoring, alongside the school accommodations and a referral to a psychologist for cognitive-behavioral strategies for attention and organization.

At three-month follow-up, Sharmin reports significant improvement in her ability to sustain attention during school, and her grade average has improved. She has also started to rebuild her self-concept as someone who, with appropriate support, is capable of academic achievement. Her father has independently sought a referral for assessment of his own ADHD-like difficulties. The case illustrates the particular vulnerability of girls with the inattentive presentation of ADHD, the importance of reframing the "lazy" narrative, the clinical reality of adult ADHD in first-degree relatives, and the role of psychoeducation and reasonable accommodations alongside pharmacological treatment.

Case Study 96.3: Intellectual Developmental Disorder - Rights, Family, and the Limits of Service

Mohammad is a twenty-two-year-old man with intellectual developmental disorder (IDD, moderate severity) who has been brought to a social welfare officer by his elder sister, Roksana, following the death of their mother, who had been his primary caregiver throughout his life. Mohammad is the youngest of five children and has spent his life in a rural area of Rajshahi district. He received no formal education; local schools refused to enroll him when he was school-age, and the family did not know that any special educational provision existed. He has learned basic self-care skills and can communicate his needs in simple phrases, but he cannot read, write, or manage money, and he cannot travel independently.

With his mother gone, Roksana, who is herself married with three young children and lives in Dhaka, is the family member most willing to take responsibility for Mohammad's care. But she is overwhelmed by the practical and financial demands of this responsibility. She has been told by a neighbor that Mohammad could be placed in a "home for the disabled," and she has come to the social welfare officer to find out about this option. She is simultaneously hoping that such a placement will relieve her own burden and feeling guilty about this hope.

The social welfare officer, working with a consulting psychiatrist, conducts a comprehensive assessment of Mohammad's needs. Mohammad is a pleasant man who communicates with simple sentences, is clearly attached to his sister and to the memory of his mother, is anxious and

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somewhat withdrawn in the unfamiliar clinic environment, and becomes animated when talking about the animals on his family's land, which he describes with some pride as his responsibility. He has no history of challenging behaviors.

The assessment reveals that Mohammad has mild-to-moderate IDD, good social relatedness, basic self-care skills, and a history of productive contribution to family agricultural tasks. He does not require institutional care; he requires supported community living, which in Bangladesh means, in practice, an appropriate family placement with adequate social and financial support.

The rights framework for this situation is clear in principle though difficult in practice. Mohammad has the right to live in the community, to participate in family and social life, and to make decisions about his own life with appropriate support. He does not have the right to be removed from the community and placed in an institution simply because his primary caregiver has died. The legal framework in Bangladesh does not provide robust individual rights protections for adults with intellectual disability, and the limited institutional residential options that exist are not consistently respectful of residents' rights and wellbeing.

The practical management plan involves a family meeting at which Mohammad's wishes and preferences are elicited with support: he expresses clearly that he does not want to leave his village, that he wants to continue working with the animals, and that he would be willing to live with Roksana if she could visit him regularly in the village. A pragmatic plan is developed in which Mohammad will remain in the family home in Rajshahi, with a neighbor family paid a modest amount to provide daily oversight and assistance, Roksana visiting monthly, and the social welfare office providing quarterly monitoring visits. The psychiatrist contacts a local NGO that provides community-based rehabilitation services, which enrolls Mohammad in a social skills and livelihood support group that meets weekly and provides structured occupation.

The case illustrates the gap between the rights framework and the practical resources available for adults with IDD in Bangladesh, the importance of respecting the person's own expressed preferences in care planning, the feasibility of community-based solutions when creatively designed, and the immense burden that family caregivers bear without adequate system support.

CHAPTER NINETY-SEVEN: SUMMARY AND INTEGRATION; CONNECTIONS TO PART EIGHT

97.1 Key Themes from Part Seven

Part Seven has provided a comprehensive examination of the neurodevelopmental disorders as they are understood, experienced, and addressed in Bangladesh. The following key themes emerge from this examination and merit consolidation.

Neurodevelopmental disorders are common, serious, and largely unaddressed in Bangladesh. Taking even conservative prevalence estimates, hundreds of thousands of Bangladeshi children

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are living with autism spectrum disorder, millions are living with ADHD, hundreds of thousands are living with significant intellectual developmental disorder, and millions more are living with specific learning disorders that, unaddressed, condemn them to educational failure. The vast majority of these individuals have never been diagnosed, have never received any professional assessment, and have never accessed any therapeutic or educational service designed for their needs. This is not a gap in knowledge about what to do; effective assessment approaches and effective interventions exist. It is a gap in system capacity, in professional training, in public awareness, and in political will.

The cultural context of neurodevelopmental disorders in Bangladesh shapes every dimension of the challenge: the timing of recognition, the explanatory frameworks through which families make sense of their child's difficulties, the stigma and shame that accompany a diagnosis, the help-seeking pathways pursued, the acceptability of different interventions, and the social outcomes for individuals and families. Effective clinical and public health work with neurodevelopmental disorders in Bangladesh must be deeply culturally informed, engaging with existing frameworks of understanding rather than simply dismissing them, working with families and communities as partners rather than treating them as obstacles, and attending to the social determinants of neurodevelopmental outcomes alongside the biological and clinical ones.

Early identification and early intervention are the most impactful clinical and public health priorities. The evidence that early intervention during the period of maximum brain plasticity improves developmental outcomes for children with autism, ADHD, and IDD is strong. The barriers to early identification in Bangladesh are substantial but not insuperable. The community health worker network, the primary care system, and the existing Child Development Centre infrastructure provide a foundation on which a more comprehensive early identification and intervention system could be built, with investment, training, and organizational commitment.

The rights of people with neurodevelopmental conditions must be placed at the center of clinical and policy responses. People with autism, ADHD, intellectual disability, and other neurodevelopmental conditions are not simply passive recipients of care; they are rights-holders with the same fundamental entitlements to education, to community participation, to healthcare, to legal protection, and to dignity as every other member of society. Bangladesh has made legal commitments through its ratification of the CRPD and through domestic legislation, but the gap between these legal commitments and the lived experience of people with neurodevelopmental conditions remains enormous. Closing this gap requires both system-level changes and a fundamental cultural shift toward recognizing the humanity and worth of people whose brains work differently.

Philosophical and ethical integrity is essential in this field. The history of how people with neurodevelopmental conditions have been treated is a history that includes profound achievements and profound abuses: from the development of genuinely effective early intervention programs to the use of aversive therapies; from the emergence of the neurodiversity framework with its profound respect for human cognitive diversity to the eugenicist practices of the early twentieth century. The clinician working with neurodevelopmental conditions in Bangladesh today must be equipped not only with clinical knowledge but with the ethical

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awareness and critical perspective to practice in a way that genuinely serves the interests of the people they are trying to help.

97.2 Philosophical and Public Health Reflections

The neurodevelopmental disorders illuminate, with particular clarity, the profound interdependence between the biological and the social in human development and human suffering. The brain that is wired differently because of a de novo genetic mutation, or because of the effects of birth asphyxia, or because of the cumulative effects of poverty, malnutrition, and environmental toxins, is not separate from the social world in which that brain must develop, learn, and function. The consequences of a particular neurological profile depend enormously on whether the child grows up in a family that is supported and informed, an educational system that is inclusive and adaptive, a community that is accepting and welcoming, and a society that is committed to the flourishing of all its members.

From a public health perspective, the message of this Part is analogous to the message of Part Six on mood disorders: the suffering associated with neurodevelopmental conditions in Bangladesh is not inevitable, and the tools to substantially reduce it are available. What is needed is sustained commitment at every level, from the family that learns about autism and seeks assessment rather than only spiritual healing, to the community health worker who learns to recognize developmental red flags, to the teacher who is trained to accommodate diverse learners, to the policymaker who allocates resources and creates enabling legislation, to the researcher who generates the evidence base for effective Bangladeshi interventions, to the clinician who provides compassionate and evidence-based care. Every step forward in this direction is a step toward a Bangladesh where every child, whatever their neurodevelopmental profile, has the opportunity to develop their capacities and to live with dignity and purpose.

97.3 Preview of Part Eight

Part Eight will turn to the personality disorders: the conditions characterized by enduring patterns of inner experience and behavior that deviate markedly from cultural expectations, that are pervasive and inflexible, that have their onset in adolescence or early adulthood, and that cause significant distress or functional impairment. Personality disorders occupy a particularly contested position in psychiatric nosology, representing the intersection of the biological and the biographical, of temperament and experience, of individual vulnerability and social environment. The ICD-11 has introduced a major reorganization of personality disorder classification, moving from the categorical approach of earlier ICD editions (which specified ten distinct personality disorder types) to a dimensional approach centered on a global severity rating and a set of prominent personality traits. This reorganization, which represents one of the most significant changes in psychiatric classification in decades, will be examined in depth alongside the clinical science, the neurobiology, the cultural dimensions, and the Bangladesh-specific realities of personality disorder in the Part that follows.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART SEVEN

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Vignette 1: A three-year-old boy is brought to your primary care clinic by his mother, who says he has not started talking yet and "doesn't seem interested in other children." His birth and perinatal history was unremarkable. On observation, he does not respond consistently to his name, makes brief and infrequent eye contact, lines up toy cars rather than playing imaginatively with them, and shows distress when his mother moves from one chair to another during the assessment. Describe your clinical approach to this presentation. What developmental history would you elicit? What would your structured observation focus on? What investigations would you request? What would your initial management include, and what referral would you make? What would you say to the mother about your clinical impressions, and how would you frame it?

Vignette 2: A ten-year-old girl is referred to you by her school with a note that she is "daydreaming constantly" and that her academic performance has deteriorated from the top of the class to the bottom over the past two years. The school suspects she is unhappy at home. On assessment, she describes finding it impossible to concentrate on subjects she does not enjoy, frequently losing track of the teacher's words, forgetting to bring homework assignments home, and losing her books and stationery on a daily basis. She is anxious and has low self-esteem. Describe the differential diagnosis. How would you distinguish ADHD from anxiety disorder, from learning disorder, and from a situational adjustment response to the school environment? What investigations would inform this distinction? Outline the management plan, addressing the roles of psychoeducation, school accommodation, psychological intervention, and pharmacological treatment. How would you engage the school in the management plan?

Vignette 3: Parents bring a twelve-year-old boy for assessment because he has been suspended from school for the third time in a year for "aggressive outbursts" in response to teasing about his talking, which has a distinctive pattern of rapid, intense monologue about one topic (Bangladesh cricket statistics) that other children find bizarre. He does not understand why other children do not share his interest, becomes highly distressed when the topic is changed, and has no close friendships. He is academically strong in mathematics and sciences but poor in subjects requiring creative writing and essay production. He has no history of intellectual difficulty. Assess this presentation against the diagnostic criteria for autism spectrum disorder. What features point toward ASD and what features might suggest alternative explanations? How would you approach the diagnostic process, and how would you frame the assessment to the family? What are the management priorities, and what school-level interventions would you recommend?

Vignette 4: A social worker contacts you asking for advice about a thirty-five-year-old woman with severe intellectual disability who lives in a small residential facility run by an NGO. The woman has been found with bruising on her arms and is unable to communicate what has happened to her. The residential facility says the bruising is from "self-injurious behavior." Outline the principles of investigating this situation from a rights perspective. What are your obligations as a clinician? What should the immediate response to this situation be? What are the structural safeguards that should be in place to protect people with severe IDD in residential facilities, and how do they compare to current practice in Bangladesh?

Vignette 5: You are a primary care physician at an upazila health complex. A mother brings her seven-year-old son to you, saying that he has been attending a local school for children with

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autism for two years and that his teachers have told her he no longer needs to be there because he is "talking too much now." She is confused about whether her son should be placed in a mainstream school and whether he still has autism if he has improved so much. Explain the concept of the autism spectrum and the variability of presentation over time. How would you advise this family about educational placement? What factors would influence your recommendation? What ongoing supports would you recommend, and what would you look for in a follow-up assessment?

STUDY QUESTIONS FOR PART SEVEN

Describe the major neurodevelopmental processes that occur between conception and early childhood, and explain how disruption of each process can produce characteristic patterns of neurodevelopmental impairment. For each process, give one example of a condition caused by its disruption and describe the mechanism involved. How has the field's understanding of these processes changed as a result of advances in genomics and neuroimaging over the past decade?

Critically evaluate the evidence for the neurodiversity framework as applied to autism spectrum disorder. What are the strongest arguments in its favor? What are its limitations? How should the neurodiversity perspective inform clinical practice in Bangladesh, where the immediate priority for most families is access to support services rather than philosophical reframing of their child's condition? How would you apply the insights of the neurodiversity framework to your clinical communication with a family who has just received a diagnosis of autism for their child?

A five-year-old child presents with delayed language, limited social communication, and repetitive behaviors, but also has significant intellectual impairment. Describe the differential diagnostic process, distinguishing between autism spectrum disorder with intellectual impairment, intellectual developmental disorder without autism, and global developmental delay. What features in the history, the examination, and the assessment most reliably distinguish these conditions from each other? What is the clinical and practical importance of getting the diagnosis right in this case?

Discuss the epidemiology of attention deficit hyperactivity disorder in Bangladesh, including the likely prevalence, the most common reasons for underdiagnosis, and the specific vulnerabilities of girls with the inattentive presentation. Describe a comprehensive assessment protocol for ADHD in a Bangladeshi child presenting to an outpatient clinic, including history, behavioral rating scales, cognitive assessment, and medical investigations. Outline the evidence-based management plan, addressing psychoeducation, school accommodations, psychological interventions, and pharmacological treatment. What specific challenges would you anticipate in implementing this plan in a resource-limited district hospital setting?

Describe the range of causes of intellectual developmental disorder in Bangladesh, with particular attention to the causes that are most important in the Bangladesh epidemiological context. For each major etiological category, describe the mechanism, the clinical features that

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may suggest that etiology, and the implications for clinical management and family counseling. Describe a tiered approach to genetic investigation for IDD that is practical in the Bangladesh context, from what can be done in any district hospital to what requires referral to a tertiary center.

Analyze the educational rights of children with neurodevelopmental conditions in Bangladesh from both a legal and a practical perspective. What do the relevant international and domestic legal instruments require? What is the reality of educational provision for children with autism, ADHD, and intellectual disability in Bangladesh today? Describe the components of a comprehensive approach to improving educational inclusion for children with neurodevelopmental conditions in Bangladesh, addressing teacher training, school environment, curriculum adaptation, and examination system reform. What evidence from other low- and middle-income countries could inform this approach?

Critically evaluate the controversy about whether autism is a disorder or a form of human diversity. What are the key empirical and philosophical arguments on each side? How does this controversy inform your approach to communicating an autism diagnosis to a family in Bangladesh? To what extent should the preferences and perspectives of autistic adults, as expressed in the neurodiversity movement, inform the design of services for autistic children? How would you balance these perspectives with the immediate practical needs of families seeking support for severely affected children?

Describe the specific public health priority of early identification and early intervention for neurodevelopmental conditions in Bangladesh. What are the most important components of an early identification system, and what platforms within the existing health and community health worker system could be used to operationalize them? What are the barriers to implementing such a system at scale, and how might they be overcome? What is the evidence base for early intervention programs like the Early Start Denver Model and the Portage program, and how might they be adapted and delivered in Bangladesh?

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End of Part Seven: Neurodevelopmental Disorders

This Part is followed by Part Eight: Personality Disorders and Their Clinical Significance in Bangladesh

PART EIGHT: PERSONALITY DISORDERS AND THEIR CLINICAL SIGNIFICANCE IN BANGLADESH

CHAPTER NINETY-EIGHT: PERSONALITY DISORDERS - CONCEPTUAL FOUNDATIONS, DEFINITIONS, AND THE PROBLEM OF UNDERSTANDING ENDURING PATTERNS OF EXPERIENCE AND BEHAVIOR

98.1 What Is a Personality Disorder? The Fundamental Question

Personality disorders occupy a position in psychiatric nosology that is at once central and deeply contested. They are among the most frequently encountered conditions in clinical

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psychiatric practice, they contribute substantially to human suffering and social dysfunction, and they present some of the most demanding therapeutic challenges in the entire discipline. And yet they are among the most contested of all psychiatric categories, surrounded by debates about whether they represent genuine disease entities or simply extreme variations in normal human personality, whether they can be reliably diagnosed, whether their boundaries are clinically meaningful, and whether the moral weight that attaches to these diagnoses in clinical and popular culture serves the interests of the people to whom they are applied.

To understand personality disorders, it is necessary to first understand what personality itself means. Personality refers to the enduring patterns of cognition, emotion, motivation, and behavior that characterize an individual and that distinguish them from others. It encompasses the characteristic ways in which a person perceives and interprets themselves, other people, and the world; the emotional tones and intensities that color their experience; the impulses and motivations that drive their behavior; and the interpersonal styles that characterize their relationships. Personality is relatively stable across time and across situations, though it is not completely fixed and does show meaningful development and change, particularly in early adulthood and in response to significant life experiences.

Normal personality varies enormously across individuals. The psychological tradition of personality science has sought to identify the fundamental dimensions along which human personalities vary, and has converged in recent decades on the Five Factor Model (FFM, also called the Big Five), which identifies five broad dimensions: Neuroticism (versus emotional stability), Extraversion (versus introversion), Openness to experience (versus closedness), Agreeableness (versus antagonism), and Conscientiousness (versus disinhibition). These five dimensions, derived from factor-analytic studies of personality trait ratings across many cultures and languages, capture a substantial proportion of the variance in normal personality, and they provide a framework for understanding both normal personality variation and personality pathology.

A personality disorder, on the conventional clinical definition, represents an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has its onset in adolescence or early adulthood, is stable over time, and leads to distress or functional impairment. This definition, which is common to DSM-5-TR and ICD-11 (though the latter uses different language), draws attention to several features that distinguish personality disorders from other psychiatric conditions: the enduring, pervasive, and inflexible character of the problematic patterns; the developmental origin in adolescence or early adulthood; and the degree to which the patterns conflict with cultural expectations rather than simply representing individual quirks.

Each of these distinguishing features raises genuine conceptual difficulties. What counts as deviating markedly from cultural expectations? Cultural norms vary enormously, and what appears deviant in one cultural context may be normative in another. In Bangladesh, as we shall explore in depth, cultural norms around emotional expression, interpersonal relationships, and self-assertion differ profoundly from the norms that implicitly underpin Western personality disorder diagnostic criteria. What counts as pervasive and inflexible? All human behavior shows some situational variation; the claim that personality disorder patterns are inflexible is a matter

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of degree, not kind. What counts as enduring? The longitudinal research suggests that personality disorders are considerably more changeable over time than was once believed, with many individuals showing substantial improvement by middle adulthood. And what counts as distress or functional impairment? This criterion raises the question of whose distress matters: a person with antisocial personality disorder may cause enormous distress to others while experiencing relatively little themselves, while a person with avoidant personality disorder may experience profound personal suffering while causing little obvious harm to others.

These conceptual difficulties are not merely philosophical abstractions. They have direct clinical consequences: they affect the reliability and validity of personality disorder diagnosis, the appropriateness of applying these diagnoses across cultural contexts, the degree to which the diagnoses capture something clinically meaningful versus simply labeling people whose behavior is socially inconvenient, and the degree to which the diagnoses are used to withhold compassionate care from people who are already among the most vulnerable and least served by mental health systems.

98.2 The Diagnostic History: From Character Disorders to Dimensional Models

The formal diagnosis of personality disorders has a complex history that reflects the broader intellectual history of psychiatry itself. Before the twentieth century, persistent abnormalities of character and personality were generally understood through moral and legal frameworks rather than medical ones. The person who was persistently dishonest, cruel, reckless, or socially disruptive was understood as morally deficient, legally responsible, and deserving of punishment rather than treatment. The medicalization of character disorders began in the late nineteenth century, as psychiatrists like J.L.A. Koch introduced the concept of "psychopathic inferiority" (later shortened to "psychopathy") to refer to conditions of persistent abnormal personality that fell short of frank mental illness but nonetheless produced significant social dysfunction.

Kurt Schneider, a German psychiatrist working in the early twentieth century, produced an influential classification of what he called "psychopathic personalities" (using the term in a broader sense than its current usage): ten types of personality pathology including depressive, insecure, fanatic, attention-seeking, labile, explosive, cold, weak-willed, and asthenic personalities. Schneider's typology was important because it moved beyond a simple binary of sane versus insane and recognized the clinical significance of enduring character pathologies that produced suffering and dysfunction without meeting criteria for psychosis. His classification influenced early DSM and ICD systems.

The DSM-I (1952) and DSM-II (1968) included personality disorders as clinical categories but organized them within a broadly psychodynamic framework. The DSM-III revolution of 1980 introduced the landmark innovation of placing personality disorders on a separate axis, Axis II, distinct from clinical disorders on Axis I. This multiaxial structure was intended to ensure that personality disorders received attention in clinical assessment and were not overlooked in the presence of acute clinical conditions. It had the effect, intended and unintended, of reinforcing the categorical distinction between personality disorders as enduring characterological conditions and acute symptomatic disorders as episodic state changes. This distinction has been increasingly questioned by research showing that the boundary between personality disorders

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and mood, anxiety, and other Axis I disorders is far more porous than the axial structure implied.

DSM-IV (1994) and DSM-IV-TR (2000) retained and refined the Axis II personality disorder categories. DSM-5 (2013) made the significant decision to eliminate the multiaxial system, placing personality disorders on the same footing as other mental disorders. More controversially, DSM-5 retained the traditional categorical personality disorder diagnoses (ten specific types) in the main diagnostic system while including an Alternative Model for Personality Disorders (AMPD) in an appendix. The AMPD represents a significant conceptual advance: it defines personality disorders in terms of both impairment in personality functioning (Criterion A, assessed on a severity continuum from zero to four) and pathological personality traits (Criterion B, assessed using five broad trait domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism). This hybrid dimensional-categorical approach reflects a genuine attempt to bring personality disorder classification into alignment with personality science while retaining enough categorical structure for clinical communication.

The ICD-11, published in 2019 and progressively adopted from 2022 onward, took the more radical step of essentially abolishing the categorical specific personality disorder types (with one exception, the borderline pattern specifier) and replacing them with a fully dimensional approach. The ICD-11 system has two components: a global severity rating (personality difficulty, mild personality disorder, moderate personality disorder, and severe personality disorder), and an optional set of personality trait qualifiers derived from five domains (Negative Affectivity, Detachment, Dissociality, Disinhibition, and Anankastia), plus a sixth domain, Borderline Pattern, that functions as a specifier for the distinctive emotional and interpersonal instability pattern associated with the former borderline personality disorder category. This fully dimensional approach represents a fundamental paradigm shift, aligning personality disorder classification with the evidence base from personality science and removing the categorical types that previous research had shown to be poorly validated, heavily overlapping, and culturally specific.

For Bangladesh, which currently uses ICD-10 in its official health system and is in the process of transitioning to ICD-11, this change has both practical and conceptual implications that we will explore throughout this Part. The practical implications concern how clinicians are trained to assess and document personality disorder diagnoses in the new system. The conceptual implications are more fundamental: the dimensional approach forces explicit attention to severity, an approach that is in many ways better suited to the clinical reality of personality pathology in any setting, but especially in a resource-limited setting where services must be prioritized on the basis of clinical need.

98.3 Personality, Culture, and the Problem of Cross-Cultural Diagnosis

The relationship between personality disorder diagnoses and cultural context is one of the most important and insufficiently addressed issues in this field. The diagnostic criteria for personality disorders are not culturally neutral. They embody assumptions about normal personality functioning that are derived primarily from Western, individualistic cultural frameworks, and they may not translate straightforwardly to cultural contexts, including Bangladesh, where

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assumptions about self, relationships, and appropriate emotional expression differ profoundly from Western norms.

Several specific examples illustrate this problem. The diagnosis of dependent personality disorder, characterized by excessive need for care, difficulty making decisions without reassurance, and fear of being alone, requires the clinician to distinguish pathological dependence from culturally normative interdependence. In many South Asian cultural contexts, including Bangladesh, high levels of interdependence within family structures, deference to elders and family authority in decision-making, and strong preferences for relational connection over solitary independence are not pathological but normative. A person who defers to their parents in major life decisions, seeks frequent reassurance from family members, and finds prolonged solitude distressing may be exhibiting culturally normative behavior rather than a personality disorder, even though their behavior matches the surface description of dependent personality disorder.

Similarly, the diagnosis of narcissistic personality disorder, centered on grandiosity, entitlement, and lack of empathy, requires sensitivity to cultural norms around status, hierarchy, and social display. In hierarchical social systems where certain kinds of status-conscious behavior are culturally expected, the boundary between adaptive conformity to cultural norms and pathological narcissism is not always clear.

The diagnosis of antisocial personality disorder raises particularly complex cultural questions. The criteria include not only the behaviors that might be expected to be antisocial across cultural contexts (such as repeated illegal acts, deceitfulness, impulsivity, aggressiveness, reckless disregard for safety, and lack of remorse) but also criteria related to stable employment and financial obligations that may reflect the specific economic and social structure of Western societies. In Bangladesh, where the informal economy is large, where formal employment is not the universal expectation, and where social and economic circumstances may make certain apparently "antisocial" behaviors understandable as adaptations to extreme adversity, the direct application of antisocial personality disorder criteria requires considerable cultural sensitivity.

The concept of the "self" that underlies many personality disorder criteria is itself culturally variable. Western personality disorder models generally assume an individualistic self, bounded, autonomous, and internally consistent, as the normative baseline from which personality disorder represents a deviation. In South Asian cultural contexts, including Bangladesh, the normative self is considerably more relational and interdependent, defined in significant part by one's roles within family and community networks rather than by purely individual attributes. An approach to personality disorder that takes seriously the cultural shaping of the self must acknowledge that what counts as healthy personality functioning is itself culturally variable.

None of this means that personality disorders do not exist in Bangladesh or that the concept has no clinical utility in the Bangladeshi context. Enduring patterns of problematic self-experience and interpersonal functioning that cause suffering and impairment are real across cultures, and the clinical imperative to recognize and address them is universal. But the recognition and assessment of these patterns requires cultural sensitivity, local validation of assessment

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instruments, and clinical judgment informed by deep familiarity with the specific cultural context. This is a consistent theme throughout this Part.

CHAPTER NINETY-NINE: HISTORICAL EVOLUTION OF PERSONALITY DISORDER CONCEPTS AND THEIR RELEVANCE TO THE BANGLADESH CONTEXT

99.1 Premodern Understandings of Character and Its Disorders

The recognition that some people have persistently problematic ways of relating to themselves, others, and the world long predates modern psychiatry. In ancient Greece, Theophrastus, a student of Aristotle, wrote a series of character sketches, "The Characters," describing thirty distinctive patterns of problematic personality: the flatterer, the garrulous person, the dissembler, the grumbler, the suspicious man, and many others. While these were literary and moral observations rather than medical diagnoses, they demonstrate the ancient recognition of persistent individual differences in character that produced characteristic social difficulties.

In the Islamic medical tradition that shaped medicine in the Bengal region through the Unani system, character and temperament were understood through the framework of the four humors, with characteristic temperamental types associated with particular humoral constitutions: the sanguine temperament (excess of blood), the choleric temperament (excess of yellow bile), the melancholic temperament (excess of black bile), and the phlegmatic temperament (excess of phlegm). While these categories do not map directly onto modern personality disorder categories, they represent a recognition that individuals differ in their characteristic emotional and behavioral styles in ways that are relatively stable and that may be associated with characteristic difficulties and vulnerabilities.

In the Hindu philosophical and medical tradition of Ayurveda, which has also had significant influence in the Bengal region, individual character was understood in terms of the three fundamental qualities (gunas) that constitute all of manifest reality: sattva (clarity, purity, equilibrium), rajas (passion, energy, activity), and tamas (inertia, darkness, sluggishness). An individual's character was understood as reflecting the balance of these gunas in their constitution, with different proportions of sattva, rajas, and tamas associated with different characteristic ways of being in the world. The cultivation of character through spiritual discipline, specifically the cultivation of sattva over rajas and tamas, was a central goal of Ayurvedic medical and spiritual practice.

These premodern frameworks are not simply historical curiosities. They continue to influence how character and its disorders are understood in Bangladesh today, and the clinician who is unaware of them may misunderstand the frameworks through which their patients make sense of their own personalities and those of others. A Bangladeshi patient who attributes a family member's persistent emotional instability and interpersonal explosiveness to their "hot" or rajasic temperament is not simply being superstitious; they are drawing on a framework of character understanding that has deep roots in the intellectual and cultural tradition of the region.

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99.2 The Colonial Encounter: Character Disorder and Racial Theory

The development of personality disorder concepts in the colonial period is inseparable from the racial politics of colonialism. Colonial psychiatry not only medicalized mental illness but produced what it claimed were scientific accounts of the characteristic personality traits of colonized peoples. In the context of British India, this produced a substantial literature claiming to identify distinctive racial and cultural personality characteristics of Bengali people and of other South Asian populations.

The colonial psychiatric and anthropological literature attributed to Bengalis characteristics including emotional lability, submissiveness, intellectual capacity combined with physical weakness, excessive religiosity, and a tendency toward hysterical and dissociative presentations rather than the frank psychosis considered more characteristic of "lower races." These characterizations served specific colonial political functions: they justified British domination as the rational governance of emotionally and physically unsuited peoples, and they naturalized the social hierarchies of colonial society as reflecting inherent rather than constructed differences.

This history has several important contemporary implications. First, it creates a legitimate and important source of suspicion toward personality disorder diagnoses that attribute persistent individual pathology to people from non-Western backgrounds, particularly in the context of historical relationships between these diagnoses and racial stereotyping. Second, it alerts the clinician to the ways in which social and structural conditions, including the experience of subordination, oppression, poverty, and the aftermath of colonialism, can produce personality adaptations that might superficially resemble personality disorder criteria but are better understood as responses to social circumstances. Third, it reinforces the importance of cultural humility and critical self-reflection in the application of diagnostic categories that were developed in and for very different cultural contexts.

99.3 The Psychopathy Concept and Its Troubled Legacy

The concept of "psychopathy" deserves specific attention because of its complex and contested history and because of its ongoing relevance to forensic psychiatry and to the understanding of antisocial personality disorder. The term was introduced in the late nineteenth century and was used broadly to refer to any persistent personality abnormality. In the early twentieth century, Eugen Bleuler distinguished between "character disorders" and frank mental illness. By the mid-twentieth century, "psychopathy" had narrowed to refer specifically to a pattern of personality characterized by persistent antisocial behavior combined with emotional shallowness, lack of remorse, and manipulativeness.

Hervey Cleckley's 1941 classic "The Mask of Sanity" provided the first detailed clinical description of psychopathy in the modern sense. Cleckley described a syndrome characterized by superficial charm, apparent normality, persistent antisocial behavior, shallow emotions, lack of anxiety, and incapacity for genuine love or loyalty. His portrayal was vivid and clinically compelling, and it shaped subsequent research and clinical thinking about severe personality disorder for decades.

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Robert Hare subsequently operationalized the psychopathy construct in the Psychopathy Checklist (PCL) and its revision (PCL-R), which assesses two factors: Factor 1 (interpersonal-affective features including grandiosity, manipulativeness, shallow affect, and lack of remorse) and Factor 2 (lifestyle and antisocial features including impulsivity, irresponsibility, criminal versatility, and parasitic lifestyle). The PCL-R has become the gold standard for assessing psychopathy in forensic contexts and has generated an enormous research literature on the neurobiological, genetic, and developmental correlates of psychopathy.

The neurobiological research on psychopathy has been one of the most productive areas in personality disorder neuroscience. Individuals with high PCL-R scores show consistent differences in amygdala function (reduced responsiveness to fear cues and to the distress of others), in prefrontal-limbic connectivity (reduced integration between emotional and executive processing systems), in autonomic reactivity to threatening or aversive stimuli (reduced skin conductance responses), and in eye tracking responses to emotional facial expressions. These findings support a model of psychopathy as characterized by a fundamental impairment in affective processing, specifically in the capacity to experience anxiety, fear, and empathic distress, that underlies both the interpersonal callousness and the reduced inhibition of antisocial behavior that characterize the syndrome.

The relationship between psychopathy as measured by the PCL-R and the DSM-5 diagnosis of antisocial personality disorder (ASPD) is complex and clinically important. ASPD as defined in DSM-5 emphasizes behavioral criteria (persistent antisocial behavior, deceitfulness, impulsivity, aggressiveness, recklessness, and irresponsibility) rather than the affective features (callousness, lack of remorse, shallow emotion) that are central to the psychopathy construct. As a consequence, most individuals who meet criteria for psychopathy on the PCL-R also meet criteria for ASPD, but many individuals who meet criteria for ASPD (probably the majority) do not score high on the affective-interpersonal features of psychopathy. This distinction is clinically important because it has implications for prognosis and treatment: individuals who are antisocial primarily because of impulsivity and poor executive function may respond differently to intervention than those who combine antisocial behavior with affective callousness and lack of remorse.

The forensic context of psychopathy assessment is particularly important in Bangladesh. The Bangladeshi criminal justice system has limited capacity to assess and manage offenders with personality disorders, and the interface between psychiatry and the law in the management of persistent offenders with personality pathology is underdeveloped. The assessment of criminal responsibility, the evaluation of fitness to plead, and the management of mentally disordered offenders are all areas where clinical guidance on personality disorder, and specifically on the relationship between severe personality disorder and criminal behavior, is urgently needed.

99.4 Object Relations Theory and the Understanding of Severe Personality Disorder

The psychoanalytic tradition made fundamental contributions to the understanding of severe personality disorders, particularly through the development of object relations theory in the British Independent School and in the work of Otto Kernberg in the United States. Object relations theory focuses on the internal world of the mind, specifically on the mental

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representations of self and others (called "internal objects") that develop through early relational experience and that shape subsequent interpersonal functioning throughout life.

Melanie Klein (1882-1960) was a central figure in the development of object relations theory. Klein proposed that infants begin their mental life in what she called the "paranoid-schizoid position," a primitive state of mind characterized by the splitting of experience into idealized and persecutory parts (good and bad objects), the projective identification of unwanted mental states into others, and primitive anxieties of annihilation. Healthy development involves a gradual integration of these split experiences into a more complex and ambivalent "depressive position," in which the infant recognizes that the person they love (the good object) and the person toward whom they feel hatred (the bad object) are the same person. This integration of good and bad, love and hate, produces the capacity for genuine concern for others, the tolerance of ambivalence, and the mourning of loss.

Klein's concept of "splitting" is particularly important for understanding the psychology of borderline personality organization and borderline personality disorder. The persistent use of splitting as a primary defense mechanism, maintaining idealization and devaluation as separate, mutually exclusive experiences rather than integrating them into a more realistic and ambivalent view of others, is a defining feature of the interpersonal experience of people with borderline personality disorder. This is why the therapist working with a patient with borderline personality disorder may be experienced as perfectly wonderful and perfectly terrible in rapid succession, not out of manipulation but out of a genuine inability to hold both good and bad in mind simultaneously.

Donald Winnicott (1896-1971) contributed the concepts of the "good enough mother" and the "true self/false self" distinction that have profound clinical relevance for personality disorders. Winnicott proposed that the healthy development of the self depends on the provision of a "holding environment" by the primary caregiver: a sufficiently attuned, reliable, and non-impinging presence that allows the infant's authentic self to emerge and develop in safety. When the holding environment is grossly insufficient, whether because of parental neglect, abuse, severe depression, or traumatic disruption, the infant may develop a "false self": a compliant, adaptive exterior that conceals and protects a vulnerable and undeveloped "true self." Winnicott's false self concept resonates clinically with the experience of many people with personality disorders, who describe a sense of unreality, inauthenticity, or emptiness in their sense of self that underlies even apparently functional social performance.

John Bowlby's attachment theory, developed in parallel with and partially in dialogue with the object relations tradition, provides an empirically grounded account of how early attachment experiences shape the internal working models of self and relationships that govern interpersonal functioning throughout life. As discussed in Part One, attachment research has established robust associations between insecure and disorganized attachment patterns in infancy and the development of personality disorders in later life. Disorganized attachment, associated with caregiving environments in which the caregiver is simultaneously a source of comfort and a source of fear (as in cases of abuse, severe neglect, or parental trauma), is particularly strongly associated with the development of borderline personality disorder. This association is mediated partly through the failure to develop coherent strategies for regulating

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emotional responses in close relationships and partly through the failure to develop a coherent, integrated sense of self and others.

Otto Kernberg (born 1928) produced the most clinically influential integration of object relations theory and its applications to personality disorder. Kernberg proposed the concept of "borderline personality organization" (BPO) as a level of structural personality organization that is distinct from both neurotic organization (in which integrated representations of self and others coexist with effective reality testing and mature defense mechanisms) and psychotic organization (in which reality testing is severely impaired). Borderline personality organization, in Kernberg's framework, is characterized by identity diffusion (a poorly integrated and unstable sense of self and others), the use of primitive defense mechanisms (especially splitting, projective identification, denial, and omnipotent control), and intact reality testing (unlike psychosis). BPO encompasses not only borderline personality disorder but many other severe personality disorders including narcissistic, antisocial, paranoid, and some schizoid presentations.

Kernberg's structural diagnosis, which assesses the level of personality organization rather than simply categorizing the specific personality disorder type, is clinically useful because it helps explain why people with apparently different personality disorder diagnoses share certain common features of severe interpersonal pathology and treatment challenge, and why they require broadly similar therapeutic approaches. The concept of borderline personality organization as distinct from neurotic and psychotic organization also helps explain the extraordinary therapeutic challenge of working with severely disturbed personality disorders: the patient neither has the psychological integration and stable therapeutic alliance of the neurotic patient nor the frank reality-testing impairment of the psychotic patient, but occupies a genuinely different structural position that requires genuinely different therapeutic approaches.

CHAPTER ONE HUNDRED: THE ICD-11 REVOLUTION IN PERSONALITY DISORDER CLASSIFICATION AND ITS CLINICAL IMPLICATIONS

100.1 Why ICD-11 Changed Everything: The Evidence Base for a Dimensional Approach

The decision to abandon categorical specific personality disorder types in ICD-11 and replace them with a dimensional severity-plus-traits system was not arbitrary. It was driven by a substantial body of evidence that had accumulated over several decades demonstrating fundamental problems with the categorical approach.

First, the categorical personality disorder diagnoses showed poor discriminant validity: they overlapped substantially with each other, and most patients who met criteria for one categorical diagnosis also met criteria for several others. Studies consistently found that the majority of patients with personality disorders met criteria for three or more specific personality disorder types, which creates an obvious problem for a categorical system that is supposed to identify distinct diagnostic entities. The most common diagnoses in clinical settings were the "catch-all" categories of "personality disorder not otherwise specified" (in DSM-IV) or "emotionally

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unstable personality disorder" (in ICD-10), which served as receptacles for cases that did not fit neatly into any single category.

Second, the categorical diagnoses showed poor temporal stability. Longitudinal studies, including the McLean Study of Adult Development (which followed patients with personality disorders over twenty years), found that many individuals who met full criteria for a specific personality disorder at baseline no longer did so at follow-up, not necessarily because they had received effective treatment, but because their symptom presentation had shifted over time. This temporal instability is inconsistent with the classical conceptualization of personality disorders as enduring and stable conditions.

Third, the categorical diagnoses showed poor cross-cultural validity. Studies comparing the structure of personality pathology across different countries and cultural contexts found that the specific diagnostic categories did not replicate well across cultures, that some categories were common in some cultural contexts and rare in others in ways that reflected cultural factors rather than genuine epidemiological variation, and that the underlying dimensions of personality pathology were more consistent across cultures than the specific categorical profiles.

Fourth, decades of personality psychology research had established that normal personality variation is best described dimensionally rather than categorically. The Five Factor Model and related dimensional systems captured normal personality variation effectively, and the extension of these dimensional models into the pathological range (through work on maladaptive trait variants of the Big Five and related constructs) suggested that personality disorder was best understood as involving extreme scores on dimensions that also describe normal personality, rather than as qualitatively distinct categorical entities.

The ICD-11 personality disorder system, as described in the introduction to this Part, responds to this evidence by centering the diagnosis on two orthogonal components: severity (how impaired is this person's general personality functioning, on a four-point continuum from personality difficulty to mild, moderate, and severe personality disorder) and trait qualifiers (which of the five domain traits best characterizes the specific style of this person's personality pathology). The severity rating is based on assessment of impairment in self-functioning (identity, self-worth, self-direction, and experience of inner states) and interpersonal functioning (understanding of and relating to others, management of relationships, and development and maintenance of close relationships). The trait qualifiers describe the characteristic pattern of the personality pathology and include Negative Affectivity (the tendency to experience a wide range of negative emotions as intense, frequent, and difficult to regulate), Detachment (avoidance of and withdrawal from social contact, emotional distance, and restricted emotional expression), Dissociality (disregard for others' rights, lack of empathy, callousness, and deceitfulness), Disinhibition (the tendency to act impulsively in response to immediate stimuli without regard for potential negative consequences), and Anankastia (perfectionism, rigidity, orderliness, and excessive concerns with rules and control).

The Borderline Pattern specifier is a special qualifier in ICD-11 that captures the distinctive clinical picture formerly called borderline personality disorder: a pattern of marked affective instability, intense and unstable close relationships, identity disturbance, impulsivity, and intense

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fear of abandonment. This specifier has been retained because the borderline pattern has the strongest evidence base of any specific personality disorder category, both for its clinical validity and for the effectiveness of specific treatments developed for it.

100.2 The Severity Dimension: Its Clinical Importance and Assessment

The severity of personality disorder is, according to the evidence base, the most important single predictor of clinical outcome, treatment need, and burden of disease. This finding, which has been replicated across multiple samples and settings, has significant implications for clinical practice and service organization.

Individuals with mild personality disorder severity show some impairment in self and interpersonal functioning but are generally able to maintain relationships and occupational functioning, and their personality problems do not dominate all areas of their life. They may present with interpersonal difficulties, recurrent relationship conflicts, or a persistent sense of inadequacy or emptiness, but these difficulties are circumscribed enough that the person can function reasonably well in many areas of their life. Mild personality disorder severity is associated with relatively better treatment response and prognosis, and these individuals may benefit from relatively brief psychotherapeutic intervention focused on the specific areas of difficulty.

Moderate personality disorder severity involves more substantial and pervasive impairment in both self and interpersonal functioning. The individual's sense of self is more unstable or distorted, their capacity to maintain close relationships is more significantly compromised, and their personality problems produce dysfunction across multiple domains of life. Suicidal behavior, self-harm, intense and unstable relationships, and significant emotional dysregulation are common at this severity level. Moderate personality disorder severity corresponds roughly to the level of severity that would previously have resulted in diagnoses such as borderline, narcissistic, or antisocial personality disorder, and these individuals typically require more intensive and sustained therapeutic intervention.

Severe personality disorder involves pervasive and extreme impairment in self and interpersonal functioning, to the degree that the person struggles to maintain any stable sense of identity, is severely impaired in their capacity for any close or productive relationships, and may have multiple and severe behavioral manifestations of personality pathology including chronic suicidality and self-harm, persistent severe disruption of occupational and social functioning, and recurrent psychiatric crises. Severe personality disorder is associated with high rates of psychiatric hospitalization, multiple comorbid diagnoses, and poor functional outcomes, and typically requires intensive, specialized, and sustained intervention.

This severity framework has particular clinical relevance in Bangladesh. In a resource-limited health system where specialist mental health services are extremely scarce, the ability to triage patients on the basis of severity and to direct the most intensive resources toward those with the greatest need is practically important. It also provides a more clinically meaningful basis for tracking outcomes over time, since symptom-based criteria for specific personality disorders

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have shown poor sensitivity to change while broader measures of personality functioning show more meaningful responsiveness to effective treatment.

100.3 The Five Trait Domains: Clinical Description and Assessment

The five trait domains in the ICD-11 personality disorder system provide important clinical information about the specific style and content of a person's personality pathology, even though they do not replace the centrality of the severity rating as the primary clinical consideration.

Negative Affectivity as a personality trait domain refers to the pervasive experience of a wide range of negative emotions as disproportionately intense, frequent, and difficult to regulate. People with high Negative Affectivity experience more anxiety, depression, anger, shame, guilt, disgust, and other negative emotional states than would be expected given their circumstances, and they find it difficult to modulate or recover from these states. Negative Affectivity is associated with high emotional reactivity, heightened sensitivity to interpersonal slights and rejections, and a tendency to experience threat and danger even in relatively benign situations. It is the most common trait domain in personality disorder across cultures and is strongly associated with psychiatric comorbidity, particularly with mood and anxiety disorders.

Detachment as a personality trait domain refers to a pattern of social and emotional withdrawal that manifests as reduced engagement with others, restricted emotional expression, limited interest in close relationships, and preference for solitary activity. People with high Detachment are interpersonally distant, emotionally unexpressive, and often described by others as cold or unfeeling. The detachment may reflect either a genuine indifference to social contact (as in the schizoid pattern) or an active avoidance of social contact driven by fear of rejection and humiliation (as in the avoidant pattern). In clinical practice, it is important to distinguish these two subtypes of detachment because they have different treatment implications: the avoidant detachment is driven by anxiety and may respond to exposure-based interventions, while the schizoid detachment is more fundamental and may not be experienced as ego-dystonic by the individual.

Dissociality as a personality trait domain refers to disregard for the rights and feelings of others, including callousness, lack of empathy, deceitfulness, manipulativeness, and a general indifference to social norms and conventions. People with high Dissociality take advantage of others for personal gain, feel little or no remorse for the harm they cause, and are skilled at presenting a superficially charming or compliant face when this serves their interests. This trait domain overlaps substantially with the affective core of the psychopathy construct and with the interpersonal dimension of antisocial personality disorder. The clinical and social implications of high Dissociality are particularly significant because of its association with harm to others, its poor response to conventional therapeutic approaches, and its frequent involvement in criminal and legal proceedings.

Disinhibition as a personality trait domain refers to a persistent orientation toward immediate gratification at the expense of long-term goals and consequences. People with high Disinhibition act impulsively, take risks without adequate consideration of consequences, fail to follow through on plans and commitments, and engage in a wide range of self-destructive behaviors

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driven by immediate impulse rather than considered judgment. Disinhibition is associated with substance use disorders, gambling and other addictive behaviors, risky sexual behavior, financial irresponsibility, and recurrent conflicts with social norms and legal regulations. It represents a failure of the executive regulatory capacities of the prefrontal cortex to modulate impulsive drives, and neurobiologically it is associated with alterations in the prefrontal-limbic circuitry that governs behavioral control.

Anankastia as a personality trait domain refers to perfectionism, orderliness, and rigidity in personal standards, emotional expression, and rules-following. People with high Anankastia are excessively focused on rules, order, and correctness, to the degree that this rigidity interferes with effective functioning and with the flexibility needed for close relationships. They may be so focused on doing things perfectly and correctly that tasks are never completed, or so insistent on their own standards that they alienate others who cannot match them. Anankastia differs from conscientiousness (a normal personality trait associated with positive outcomes) in that it is associated with inflexibility, excessive preoccupation, and functional impairment rather than with orderliness and reliability as adaptive qualities. In the Bangladesh context, Anankastia may sometimes be difficult to distinguish from culturally normative emphases on propriety, correctness, and adherence to religious and social rules, and the clinical assessment requires attention to the degree of rigidity, the degree of associated impairment, and the person's own experience of their patterns as ego-syntonic or ego-dystonic.

100.4 The Borderline Pattern Specifier: Clinical Science and Retained Significance

The decision to retain the Borderline Pattern as a specifier in ICD-11 reflects the extraordinary clinical significance and research evidence that has accumulated around what was previously called borderline personality disorder. Borderline personality disorder (BPD) has the most substantial evidence base of any personality disorder category, both for its validity as a distinct clinical entity and for the effectiveness of specific psychological treatments developed for it. The retention of the borderline pattern specifier ensures that this clinical knowledge is not lost in the transition to the dimensional system.

The clinical picture of borderline personality disorder is distinctive and clinically important to recognize. The core features include marked instability of affects (intense and rapidly shifting emotional states, particularly involving fear, anger, shame, and emptiness), impulsive behaviors across multiple domains (including self-harm, suicidal behavior, substance use, reckless spending, binge eating, and unsafe sexual activity), intense and unstable close relationships characterized by alternation between idealization and devaluation (the so-called "I love you, I hate you" pattern), significant disturbances in identity (chronic uncertainty about who one is, what one values, and what one wants), and intense efforts to avoid real or imagined abandonment. In addition, under conditions of stress, people with BPD may experience brief dissociative episodes or quasi-psychotic symptoms (intense paranoid ideation, derealisation, depersonalization) that remit relatively quickly when the stressor resolves.

The epidemiology of BPD places its prevalence at approximately 1 to 2 percent of the general population, rising to 10 to 20 percent in psychiatric outpatient settings and 15 to 25 percent in psychiatric inpatient settings. It is among the most common diagnoses in psychiatric emergency

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settings, partly because of the recurrent suicidal behavior and self-harm that characterize many presentations. While BPD was historically thought to be predominantly a disorder of women, more recent research suggests that the gender ratio may be closer to equal in the general population, with women being overrepresented in clinical samples partly because of help-seeking patterns and partly because men with the same underlying personality pathology may be more likely to receive diagnoses of antisocial personality disorder or substance use disorder.

The long-term prognosis of BPD has been substantially revised upward over the past two decades as longitudinal research has accumulated. The McLean Study of Adult Development found that, by 10 years after diagnosis, approximately 85 percent of patients no longer met full criteria for BPD, and by 20 years, the remission rate was even higher. Importantly, however, while symptomatic remission was relatively common, functional recovery (the return to satisfactory occupational and social functioning) was considerably less common, with a majority of patients continuing to show significant functional impairment even after symptomatic improvement. This dissociation between symptomatic and functional recovery reinforces the importance of the recovery model in personality disorder treatment, with its emphasis on functional and social goals alongside symptom reduction.

CHAPTER ONE HUNDRED AND ONE: NEUROBIOLOGY AND PSYCHOLOGICAL THEORIES OF PERSONALITY DISORDERS

101.1 The Neurobiological Foundations of Personality and Its Disorders

The neurobiology of personality disorders has been an area of rapidly growing research, though the findings are considerably more complex and less definitive than in some other areas of biological psychiatry. As with other psychiatric conditions, the neurobiological picture involves not simple localized brain lesions but complex alterations in the functioning of neural circuits and networks that underlie the behavioral and emotional systems affected in personality disorders.

The most extensively studied neurobiological area in personality disorder research is the affective systems, particularly the neural circuitry of emotion regulation, threat processing, and social cognition. Borderline personality disorder has been the most intensively studied condition in this regard, partly because of its clinical significance and partly because of the rich theoretical models of its pathogenesis that have guided neuroscientific research.

Neuroimaging studies of BPD have consistently identified alterations in the limbic system, particularly the amygdala, hippocampus, and anterior cingulate cortex, and in the connectivity between these limbic structures and the prefrontal cortex. The amygdala, which plays a critical role in detecting and responding to emotionally significant stimuli, particularly threats, appears to be hyperresponsive in BPD, showing exaggerated activation in response to emotionally ambiguous stimuli, negative facial expressions, and social rejection cues. This amygdala hyperreactivity may underlie the heightened emotional sensitivity and the intense emotional responses to interpersonal situations that characterize BPD.

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The prefrontal cortex, which normally exerts a regulatory influence over limbic reactivity through top-down inhibitory connections, appears to show reduced activity and reduced connectivity with the amygdala in BPD, suggesting a failure of the normal emotion-regulatory "braking" mechanism. This combination of amygdala hyperreactivity and prefrontal-limbic dysconnectivity is consistent with the clinical picture of BPD as a disorder of emotion regulation: emotional responses that are too intense, that escalate too rapidly, and that are difficult to modulate through cognitive or behavioral strategies.

The role of the serotonin system in personality disorders, particularly in impulsivity and aggression, has been studied for several decades. Reduced serotonergic activity, as measured by cerebrospinal fluid levels of the serotonin metabolite 5-hydroxyindoleacetic acid (5-HIAA), has been associated with impulsive aggression and suicidal behavior in multiple studies, including studies of individuals with cluster B personality disorders. The serotonin transporter gene (SLC6A4) and its promoter polymorphism (5-HTTLPR) have been among the most studied genetic variants in personality disorder research, with some evidence linking the short allele (associated with reduced serotonin transporter expression) to emotional reactivity and impulsivity. However, as with genetic research in other areas of psychiatry, individual effect sizes are small and findings have not always replicated consistently across samples.

The dopamine system is centrally involved in the reward and motivation systems that are dysregulated in personality disorders characterized by impulsivity and sensation-seeking. Alterations in dopaminergic signaling in the mesolimbic system (including the nucleus accumbens and the ventral tegmental area) may underlie the reduced sensitivity to delayed rewards, the heightened sensitivity to immediate gratification, and the tendency toward sensation-seeking behavior that characterize disorders with high Disinhibition.

The oxytocin system has attracted considerable research attention in the context of personality disorders because of its central role in social bonding, trust, and interpersonal reactivity. Studies of oxytocin in BPD have produced complex and sometimes contradictory findings: while oxytocin is generally thought to promote social bonding and reduce social anxiety in most contexts, its effects in BPD may be paradoxical, with intranasal oxytocin administration in some studies worsening rather than improving trust and interpersonal sensitivity in BPD patients. This paradox may reflect the hyperactivation of social threat-detection systems in BPD, which causes elevated oxytocin to increase vigilance to social cues rather than promoting relaxed trust.

A 2024 comprehensive review of neurobiological findings in personality disorders, published in Neuroscience and Biobehavioral Reviews, concluded that while substantial progress has been made in identifying the neural correlates of specific personality disorder features (particularly in BPD and psychopathy), a comprehensive neurobiological model of personality disorder pathogenesis remains elusive. The marked heterogeneity within personality disorder categories, the high rates of comorbidity with other psychiatric conditions that have their own neurobiological profiles, and the significant methodological limitations of existing neuroimaging and genetic studies all constrain the interpretability of current findings. The authors called for larger, better-powered, longitudinal studies with dimensional rather than categorical outcome measures, an approach that aligns with the ICD-11's dimensional framework and that is likely to produce more replicable and clinically informative results.

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101.2 Genetics of Personality Disorders

The genetic contribution to personality and personality disorders is substantial but complex. Twin studies have consistently found significant heritability for normal personality traits (estimates for the Big Five dimensions range from 40 to 60 percent), and similar heritability estimates have been obtained for personality disorders. The McLean Study of Adult Development found a heritability estimate for borderline personality disorder of approximately 42 percent, with non-shared environmental factors accounting for the remaining variance. Similar estimates have been obtained for other personality disorders.

However, the genetic architecture of personality disorders appears to be highly polygenetic: no single gene of large effect has been identified for any personality disorder, and the pattern is instead one of many common genetic variants, each of very small effect, whose aggregate contribution (polygenic risk score) partially predicts personality disorder risk. This polygenic architecture is similar to that of other complex psychiatric traits including major depression and schizophrenia. Moreover, there is substantial genetic overlap between personality disorders and other psychiatric conditions: a 2025 genome-wide association study meta-analysis found significant genetic correlation between BPD and major depressive disorder, bipolar disorder, PTSD, and ADHD, suggesting shared genetic liability across these conditions and raising questions about their boundaries as distinct disease entities.

The role of gene-environment interaction in personality disorder development is particularly important. Research has consistently shown that the impact of adverse childhood experiences on personality disorder risk is moderated by genetic factors, such that individuals with certain genetic profiles may be more sensitive to environmental adversity, making them both more vulnerable to personality disorder development in adverse environments and potentially more responsive to positive environmental influences. This "differential susceptibility" model, developed by Jay Belsky and others, challenges the simple diathesis-stress conceptualization of personality disorder by suggesting that genetic factors may confer sensitivity to the environment in both directions, not simply vulnerability to stress.

Epigenetic research has begun to illuminate the molecular mechanisms through which early adversity produces lasting changes in personality-relevant biological systems. Studies of individuals with BPD have found epigenetic alterations in genes involved in the HPA axis stress response system, in oxytocin signaling, and in serotonin transporter function, consistent with the hypothesis that early trauma produces lasting molecular changes in these systems that contribute to the affective dysregulation and interpersonal hypersensitivity that characterize BPD.

101.3 The Attachment Model of Personality Disorder Development

The attachment model, introduced briefly in earlier chapters and deserving of fuller treatment here, provides one of the most empirically grounded and clinically useful frameworks for understanding the development of personality disorders. The key contributions of attachment theory to our understanding of personality disorders are several.

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First, attachment research has established that the quality of early attachment relationships is one of the most important determinants of long-term personality development and mental health outcomes. Longitudinal studies have traced pathways from specific patterns of insecure attachment in infancy and early childhood to specific personality disorder features in adolescence and adulthood. Disorganized attachment, as noted above, has the strongest association with borderline personality disorder, while dismissing avoidant attachment is associated with schizoid and narcissistic personality features, and preoccupied anxious attachment is associated with dependent and histrionic features.

Second, attachment theory provides a mechanistic account of how early relational experiences produce the internal working models that govern personality disorder functioning. Internal working models are cognitive-affective schemas about the self (as worthy or unworthy of care, as capable or incapable of managing distress), about others (as reliably responsive or unpredictably available, as safe or threatening), and about the self-in-relationship (as able to maintain connection while managing distress). These internal working models are laid down in early childhood through repeated relational experience, are relatively automatic and preconscious in their operation, and shape the characteristic interpersonal patterns of personality disorders: the hypervigilance to rejection in BPD, the emotional distance in schizoid presentations, the dependency in dependent personality disorder, the entitled expectations in narcissistic personality disorder.

Third, attachment theory has informed the development of some of the most effective treatments for personality disorders, particularly Mentalization-Based Treatment (MBT), developed by Peter Fonagy and Anthony Bateman. MBT is based on the theory that a key capacity impaired in BPD and related severe personality disorders is mentalization, the ability to understand behavior, whether one's own or others', in terms of underlying mental states including thoughts, feelings, desires, intentions, and beliefs. Fonagy and colleagues have argued that the capacity for mentalization, which is acquired through good-enough early attachment relationships, is disrupted by severe early attachment adversity, producing the characteristic difficulties in BPD of understanding one's own and others' mental states, particularly under conditions of attachment-related stress. MBT aims to restore and develop this capacity through a specific therapeutic stance and set of techniques that will be described in the treatment chapter.

101.4 The Biosocial Theory: Understanding BPD Through Linehan's Framework

Marsha Linehan's biosocial theory of BPD, developed in the context of her creation of Dialectical Behavior Therapy, provides a different but complementary explanatory framework that has proven enormously generative for both theoretical understanding and clinical practice. The biosocial theory proposes that BPD develops through the transaction between two factors: a biological sensitivity (characterizing emotion as more reactive, more intense, and slower to return to baseline than in most individuals) and an invalidating environment (a childhood social environment that consistently fails to acknowledge, accept, and validate the individual's emotional experiences).

The biological sensitivity, on Linehan's account, is primarily genetic, though it may also be shaped by prenatal and early developmental factors. The person who develops BPD brings to

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their childhood environment a heightened emotional reactivity that means they experience more intense emotional responses to situations, that their emotional responses escalate more rapidly, and that it takes longer for them to return to their emotional baseline. This biological sensitivity, in itself, does not inevitably produce BPD; many highly emotionally sensitive people develop excellent emotional regulation skills and flourishing interpersonal relationships. What matters, in the biosocial theory, is the interaction between biological sensitivity and the social environment.

The invalidating environment, in Linehan's framework, is one that consistently communicates to the child that their emotional experiences are wrong, inappropriate, unacceptable, or otherwise in need of suppression or change. This invalidation may take many forms: a parent who tells the child she should not feel sad, that her feelings are a sign of weakness or attention-seeking; a family that communicates that strong negative emotions are shameful and should not be expressed; a culture that demands stoic compliance and penalizes emotional expressiveness; or, in the most severe cases, abusive environments in which the child's expressions of emotional distress are met with punishment, ridicule, or neglect.

The transaction between biological sensitivity and the invalidating environment, in Linehan's theory, produces the characteristic features of BPD. The emotionally sensitive child, unable to regulate their emotional experiences through their own resources, attempts to obtain validation and regulation from the environment. The invalidating environment's consistent failure to provide this validation intensifies the child's emotional distress and their sense that their emotions are uncontrollable and overwhelming. Over time, the child may learn to oscillate between extreme emotional expression (an escalating bid for acknowledgment and validation) and extreme suppression (compliance with the demand to repress emotional experience), without developing the intermediate skill of experiencing emotions as informative and manageable. This oscillation between emotional extremes is, in Linehan's account, the developmental precursor to the emotional dysregulation that is the core of BPD.

The biosocial theory has important implications for clinical practice in Bangladesh. The concept of the invalidating environment is particularly relevant in a cultural context where emotional expressiveness, particularly for women, is heavily constrained by social norms. Bangladeshi women who experience intense emotional responses, particularly anger, grief, or fear, in the context of family relationships, marital difficulties, or social pressures, may encounter systematic invalidation of those experiences from family members, religious authorities, and even health professionals. Understanding this cultural dimension of emotional invalidation is essential for the clinician working with personality disorders in Bangladesh, and it points toward the importance of culturally informed therapeutic approaches that take the specific social context of emotional invalidation seriously.

CHAPTER ONE HUNDRED AND TWO: THE BORDERLINE PATTERN IN DEPTH - CLINICAL SCIENCE, PHENOMENOLOGY, AND THE BANGLADESH CONTEXT

102.1 The Clinical Experience of Borderline Personality Disorder

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Understanding borderline personality disorder requires not only knowledge of its diagnostic criteria but a genuine effort to understand the subjective experience of those who live with it. This experiential understanding is not merely a matter of compassion (though compassion is essential); it is a clinical necessity, because the treatment of BPD is fundamentally a relational endeavor in which the quality of the therapeutic relationship is one of the most powerful determinants of outcome.

The lived experience of BPD has been described by many people with the diagnosis in terms that illuminate the profound difficulty of the condition. Prominent among their self-descriptions is the experience of the self as unstable, fragmented, or empty: a chronic uncertainty about who they are, what they feel, what they want, and what they value. This identity instability is not simply confusion; it is experienced as a genuinely threatening absence at the core of the self, a void that must be managed through intense relationships, intense experiences, and sometimes through self-harm that paradoxically provides a sense of being real or present in one's own body.

The interpersonal world of BPD is one of intense but fragile connections. Close relationships are desperately sought and profoundly important, because other people provide the mirroring and validation that the unstable self cannot generate for itself. But close relationships are also experienced as intensely threatening, because the abandonment of an important relationship would be catastrophic, removing the relational scaffolding that holds the fragile self together. This combination of intense need and intense fear in close relationships produces the characteristic pattern of idealization and devaluation: the new friend or therapist is wonderful, perfectly understanding, exactly what has always been longed for. But when they fail, as they inevitably do (because no relationship can provide the total mirroring and unconditional acceptance that the BPD inner world demands), the ideal collapses into its opposite, and the person who was wonderful becomes the person who has betrayed and abandoned.

Emotional experience in BPD is genuinely different from neurotypical emotional experience in its intensity, its rapidity of change, and its difficulty of regulation. Emotional states arise very quickly in response to relatively minor interpersonal triggers, particularly cues of rejection, abandonment, or criticism. Once aroused, these emotional states are difficult to modulate and may escalate rapidly to levels of intensity that overwhelm the person's capacity to think clearly or act purposefully. The person may feel flooded by emotion in a way that is experienced as catastrophic and unbearable, and may resort to self-harm or other impulsive behaviors as ways of managing the emotional flooding.

Self-harm in BPD, particularly cutting, burning, or other forms of deliberate self-injury, is not primarily suicidal in intent (though suicidal behavior is also common in BPD). For many people with BPD, self-harm functions as a form of emotion regulation: a way of relieving unbearable emotional tension, of producing a sense of control and concreteness when inner experience feels chaotic and unreal, of communicating distress in a way that words seem inadequate to express, or of producing a flood of physiological sensation that temporarily replaces the more diffuse and unmanageable emotional pain. Understanding the functions of self-harm in BPD is clinically essential because it informs both the therapeutic response and the safety planning, and it protects against the two most common clinical errors: treating all self-harm as primarily suicidal (and thereby perpetuating a system of emergency hospitalization that may reinforce the

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behavior) and dismissing self-harm as manipulative (thereby failing to address the genuine emotional need it expresses).

102.2 Childhood Adversity, Trauma, and BPD: The Empirical Evidence and Its Limits

The relationship between childhood adversity and the development of BPD is one of the most consistently reported findings in personality disorder research. Multiple studies have found that a substantial proportion of people with BPD report histories of childhood sexual abuse, physical abuse, emotional abuse, neglect, witnessing domestic violence, parental psychiatric disorder, and other forms of significant early adversity. Meta-analytic estimates suggest that approximately 70 to 80 percent of people with BPD report at least one form of childhood maltreatment.

These findings have led some clinicians and researchers to propose that BPD should be reconceptualized as primarily a trauma-related disorder, a consequence of severe and repeated early relational trauma, rather than as a personality disorder in the conventional sense. This reconceptualization has gained some traction in the form of the concept of Complex PTSD (C-PTSD), a new diagnostic category in ICD-11 that is characterized by the symptoms of PTSD plus additional disturbances in self-organization including affect dysregulation, negative self-concept, and disturbances in relationships. There is genuine clinical overlap between C-PTSD and BPD, and the question of their relationship is one of the most active areas of debate in personality disorder research.

However, the trauma-as-primary-cause hypothesis for BPD has significant limitations. First, the relationship between childhood adversity and BPD, while robust, is not deterministic: many people with histories of severe childhood trauma do not develop BPD, and some people with BPD have no reported history of abuse or neglect. Second, the retrospective self-report of childhood experiences on which most trauma research is based is subject to systematic biases, including the difficulty of accurately remembering events that occurred in early childhood and the possibility that current affective state influences the reporting of past events. Third, the genetic research reviewed above suggests that a substantial proportion of BPD liability is genetically influenced, which cannot be fully accounted for by a purely environmental model.

The most intellectually defensible position is that childhood adversity, particularly early relational trauma, is an important and probably necessary predisposing factor for BPD in many (probably most) cases, but that it interacts with genetic and constitutional factors in the development of the disorder, and that a purely trauma-based reconceptualization does not capture the full clinical reality of the condition. In clinical practice, this means that trauma exploration and trauma-informed care should be central to the assessment and treatment of BPD, while avoiding a reductive account that treats BPD as simply PTSD with a different label.

In Bangladesh, the relationship between childhood adversity and personality disorder development has particular resonance. Bangladesh has high rates of childhood physical punishment (a 2019 UNICEF survey found that over 90 percent of Bangladeshi children aged two to fourteen had experienced at least one form of violent discipline in the preceding month), significant rates of childhood sexual abuse (which is severely underreported due to stigma and

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social pressure to conceal family difficulties), and high rates of adverse childhood experiences related to poverty, parental conflict, and early marriage for girls. While these exposures do not inevitably produce personality disorder, they represent a substantial population-level burden of risk that deserves explicit attention in any public health approach to personality disorder in Bangladesh.

102.3 Gender, Culture, and the Borderline Diagnosis in Bangladesh

The gender distribution of BPD diagnoses in clinical populations, with women consistently overrepresented, reflects a complex interplay of biological, psychological, and social factors that has particular resonance in the Bangladeshi context.

Biological factors that may contribute to gender differences in BPD include the hormonal influences on emotional reactivity: fluctuations in estrogen and progesterone across the menstrual cycle, in the peripartum period, and in the perimenopausal transition are associated with changes in emotional regulation, in serotonergic signaling, and in the functioning of emotion regulation neural circuits. These hormonal influences may amplify the emotional dysregulation that is central to BPD, contributing to the hormonal sensitivity that many women with BPD report.

Social and cultural factors, however, are arguably more important in explaining the gender distribution of BPD diagnoses. In Bangladesh, as in many cultural contexts, women face specific social conditions that create vulnerability to the development of BPD features and that shape the way these features are expressed and recognized. The subordinate social position of women, the constraints on emotional expression and self-assertion that social norms impose on Bangladeshi women, the high rates of intimate partner violence (a 2011 Bangladesh Demographic and Health Survey found that 53 percent of ever-married women had experienced physical or sexual violence from their spouse), and the specific adversities associated with dowry demands, early marriage, and family conflict all create conditions of chronic stress, chronic invalidation, and chronic threat that are consistent with the biosocial model's account of BPD development.

The expression of BPD features in Bangladeshi women may also be shaped by cultural idioms of distress. The intense emotional crises that characterize BPD may be expressed through somatic symptoms (chest pain, dizziness, weakness), through dissociative episodes that may be interpreted as spirit possession, or through dramatic behavioral expressions that are understood within the family as expressions of social distress rather than as symptoms of a psychiatric condition. The recognition of BPD in Bangladeshi women therefore requires sensitivity to these culturally specific expressions and to the social context in which they arise.

The application of the BPD diagnosis to Bangladeshi women also carries specific risks. In a cultural context where women's emotional and behavioral difficulties are often attributed to their own failings or to spiritual causes, a psychiatric label like BPD may be used to pathologize reasonable responses to genuinely intolerable circumstances. A woman who responds with rage and self-harm to severe marital violence, dowry demands, and social isolation may be expressing a comprehensible protest against her conditions rather than manifesting a

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personality disorder, and the clinician who applies the BPD diagnosis without attending carefully to the social context may be participating in the medicalization of social injustice.

This is not to say that BPD does not exist in Bangladeshi women or that the diagnosis is never appropriate. It is to say that the diagnosis requires careful assessment of the social context, respectful engagement with the person's own understanding of their experience, and a therapeutic response that attends to the social determinants of their distress alongside the specific features of personality disorder that may be present.

CHAPTER ONE HUNDRED AND THREE: ANTISOCIAL AND DISSOCIAL PERSONALITY - CLINICAL SCIENCE, SOCIAL DIMENSIONS, AND FORENSIC CONSIDERATIONS IN BANGLADESH

103.1 Clinical Features of Antisocial and Dissocial Personality Disorder

Antisocial personality disorder (ASPD), as defined in DSM-5-TR, and its ICD-11 equivalent conceptualized through the trait domain of high Dissociality combined with appropriate severity, represents one of the most clinically and socially significant personality disorder patterns. The clinical picture is characterized by a persistent pattern of disregard for and violation of the rights of others, encompassing deceitfulness, exploitation, impulsivity, aggressiveness, reckless disregard for safety, irresponsibility, and lack of remorse. This pattern must have its origins in conduct disorder before the age of fifteen and must be manifest in multiple contexts.

The distinction between ASPD and the narrower construct of psychopathy is clinically important, as discussed in the historical chapter above. ASPD as a diagnosis captures a broad population of individuals whose antisocial behavior may be driven primarily by impulsivity, poor executive function, substance use, economic deprivation, and social adversity, rather than by the specific affective-interpersonal profile (callousness, shallow emotion, lack of remorse) that characterizes psychopathy. In the Bangladesh context, this distinction is particularly significant because of the potential for ASPD to be inappropriately applied to individuals whose persistent antisocial behavior reflects social conditions including extreme poverty, childhood neglect, exposure to violence, and limited educational opportunity rather than a fundamentally deviant personality structure.

The prevalence of ASPD in the general population is estimated at approximately 1 to 4 percent globally, with higher rates in forensic and substance use populations. It is considerably more common in men than in women (approximately three to four times more common), a gender ratio that reflects both biological factors (including the role of testosterone in impulsivity and aggression) and social factors (including different socialization around aggressive behavior and different thresholds for recognition and diagnosis of antisocial behavior in men versus women). Comorbidity with substance use disorders is extremely high in ASPD, with rates of alcohol and other substance use disorders exceeding 70 percent in many clinical samples.

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The prognosis of ASPD has been a subject of debate. The older clinical wisdom held that ASPD was essentially untreatable and that the natural history was one of persistent criminal and antisocial behavior. More recent longitudinal research has shown that, as with BPD, the behavioral manifestations of ASPD tend to moderate with age, with rates of criminal behavior and impulsive antisocial acts declining substantially after the fourth and fifth decades. This "burning out" of ASPD with age does not necessarily reflect a change in the underlying personality structure so much as a reduction in the impulsivity that drives behavioral acting-out, perhaps related to normal age-related changes in the dopamine system and in risk-taking propensity.

103.2 Antisocial Personality Disorder and the Bangladeshi Social Context

The assessment of ASPD in the Bangladeshi context requires particular care because of the ways in which social conditions can produce persistent antisocial behavior without the personality disorder being the primary explanation. Bangladesh has a substantial population of young men who have engaged in criminal behavior, including members of political party student wings (chhatra shibir, chhatra league, and similar organizations) who have been involved in violence, extortion, and intimidation, young men who have engaged in crimes driven by economic desperation, and individuals who have been involved in the drug trade. The question of whether persistent antisocial behavior in these individuals reflects ASPD or rather a response to social conditions, including political culture that rewards and protects violent behavior, extreme poverty, limited legal accountability, and the normalization of violence in certain social contexts, is both clinically important and ethically complex.

This is not to suggest that ASPD does not exist in Bangladesh or that personality pathology is not a factor in persistent antisocial behavior. It is to say that the assessment of ASPD in Bangladesh requires careful attention to the social context in which the behavior has occurred, to the person's own narrative about their behavior and its motivations, to the presence or absence of the affective features that distinguish psychopathy from socially conditioned antisocial behavior, and to the degree to which the behavior reflects a general pattern of exploitative interpersonal functioning across all life domains rather than a context-specific response to particular social pressures.

The forensic assessment context is particularly important in Bangladesh. Individuals who come to the attention of the mental health system in the context of criminal proceedings may be assessed for ASPD as part of broader psychiatric evaluation. The clinical assessment in this context should be informed by an awareness of the potential for ASPD to be over-diagnosed in individuals from marginalized social backgrounds, the potential for malingering to complicate the assessment, the limited validity of self-report in individuals whose lifestyle has involved systematic deception, and the importance of collateral information from multiple sources in forming a clinical opinion.

103.3 Violence, Aggression, and Personality Disorder in Bangladesh

The relationship between personality disorders and violence or aggression is complex and clinically important in the Bangladesh context. The popular and sometimes professional

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assumption that people with personality disorders (particularly BPD, ASPD, and narcissistic personality disorder) are inherently dangerous or violent is an oversimplification that contributes to stigma and to inappropriate clinical management.

The research evidence on personality disorders and violence finds that the risk of violence is significantly elevated in individuals with ASPD, particularly those with high psychopathy scores, and that impulsive aggression is a feature of several personality disorders including BPD (intermittent explosive behavior under provocation), narcissistic personality disorder (rage responses to narcissistic injury), and paranoid personality disorder (reactive aggression in response to perceived threat). However, the base rate of violence in personality disorder is much lower than the base rate of violence in substance use disorders, and the combination of personality disorder and substance use disorder represents a particularly significant risk factor for violence that should be addressed in both clinical management and public health policy.

In Bangladesh, intimate partner violence (IPV) represents the most prevalent and most clinically significant form of violence associated with personality disorder. The high rates of IPV in Bangladesh, with the majority of married women reporting experience of physical or sexual violence from their spouse, occur in a social context that includes patriarchal norms, economic dependency, limited legal protection, and impunity for perpetrators. While personality disorder (particularly narcissistic, ASPD, and explosive features) may be a contributing factor in some perpetrators of IPV, it is critically important that the primary explanatory framework for IPV in Bangladesh does not locate the cause in individual psychopathology at the expense of the social, cultural, legal, and economic conditions that enable and perpetuate IPV. The clinical assessment of IPV perpetrators may identify personality disorder features that are relevant to intervention, but intervention must address the social conditions that enable violence as well as the individual pathology of the perpetrator.

CHAPTER ONE HUNDRED AND FOUR: THE FULL SPECTRUM OF PERSONALITY DISORDER PATTERNS - CLINICAL SCIENCE AND BANGLADESH CONTEXT

104.1 Narcissistic Personality and Its Cultural Dimensions

Narcissistic personality disorder (NPD) is characterized by a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy, beginning by early adulthood. The clinical picture encompasses a sense of entitlement, exploitation of others, arrogance, envy of others, and a conviction of one's own unique importance and specialness that is disproportionate to actual accomplishments. Beneath this grandiose surface, psychodynamic theory and clinical experience suggest, lies a fragile and vulnerable self that is dependent on external admiration for its stability and that responds to perceived slights or failures with narcissistic rage or shame-driven withdrawal (the so-called "deflated" narcissism or vulnerable narcissism).

The distinction between "grandiose" and "vulnerable" narcissism has received considerable research attention in the past decade. Grandiose narcissism is the "overt" form characterized by

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explicit self-enhancement, social dominance, and outwardly expressed entitlement. Vulnerable narcissism is the "covert" form characterized by fragility, shame-sensitivity, social withdrawal, and a hypersensitivity to criticism. These two presentations may exist in the same individual at different times, with the grandiose performance representing a defense against the underlying vulnerability, or they may represent distinct personality configurations. The distinction is clinically important because it affects the clinical presentation, the therapeutic alliance, and the treatment approach.

In the Bangladesh context, the cultural dimensions of narcissism deserve careful consideration. Social hierarchies in Bangladesh, particularly around family lineage, educational achievement, occupational status, and religious authority, create specific cultural frameworks for status and entitlement that may overlap with, but are not identical to, the pathological narcissism of NPD. The respect accorded to family elders, the status of successful professionals, and the authority of religious leaders are culturally normative in ways that might superficially resemble narcissistic entitlement but represent something quite different: the appropriate exercise of culturally sanctioned social roles. The clinical assessment of narcissism in Bangladesh requires careful attention to these cultural norms and to the ways in which pathological narcissism exceeds culturally normative status-seeking in its inflexibility, its exploitation of others, and its profound difficulty tolerating any challenge to the self-image.

The prevalence of NPD in the general population is estimated at approximately 1 to 6 percent, with higher rates in some specific social contexts including corporate leadership, politics, and entertainment, where the traits associated with narcissism may be adaptive and even rewarded. The recognition and treatment of NPD in Bangladesh is complicated by the limited availability of psychological assessment and by cultural factors that may normalize certain narcissistic behaviors in men of high social status.

104.2 Paranoid Personality Disorder: Clinical Picture and Bangladesh Dimensions

Paranoid personality disorder is characterized by a pervasive distrust and suspiciousness of others that leads to the interpretation of their motives as malevolent. The individual with paranoid personality disorder is persistently suspicious without adequate justification, bears grudges and is persistently angry about perceived slights or injuries, reads threatening meanings into benign remarks or events, questions the loyalty of friends and colleagues without adequate justification, and is reluctant to confide in others for fear that information will be used against them.

The differential diagnosis between paranoid personality disorder and paranoid ideation in the context of other conditions (including schizophrenia, substance-induced states, PTSD, and depression) requires careful clinical assessment. The key distinguishing features of paranoid personality disorder are its enduring, pervasive, ego-syntonic character (the person believes their suspicions are justified rather than recognizing them as symptoms), the absence of frank delusions or hallucinations (which would suggest a primary psychotic disorder), and the onset in early adulthood rather than as a change from previous functioning.

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In Bangladesh, the cultural context creates specific challenges for the assessment of paranoid personality disorder. In communities where distrust of authority is a rational response to historical experiences of oppression and exploitation, where business practices involve significant levels of interpersonal caution and strategic opacity, and where communal conflicts have historical roots in very real group-level threats, persistent interpersonal suspicion may represent an adaptive response to the social environment rather than pathological paranoia. The assessment of paranoid personality disorder in Bangladesh requires careful attention to whether the degree and pervasiveness of suspicion exceeds what the specific cultural and social context would justify, and to whether the suspicion extends to the person's closest and most trustworthy relationships in ways that cannot be explained by realistic risk assessment.

104.3 Schizoid and Schizotypal Presentations

Schizoid personality disorder is characterized by a pervasive pattern of detachment from social relationships and a restricted range of expression of emotions in interpersonal settings. The individual with schizoid personality disorder has little interest in or desire for close relationships, takes pleasure in few if any activities, appears emotionally cold and detached, and has little interest in either sexual relationships or close friendships. They are self-sufficient and appear to lack any desire for the approval or company of others. This detachment is ego-syntonic rather than distressing: the person with schizoid personality disorder does not experience their social detachment as a problem but simply as their natural way of being.

Schizotypal personality disorder (or, in ICD-11, schizotypal disorder, which is classified with the schizophrenia spectrum rather than with personality disorders) is characterized by acute discomfort in close relationships combined with cognitive or perceptual distortions and eccentricities of behavior. Magical thinking, unusual perceptual experiences, ideas of reference, and odd speech and behavior are characteristic. Schizotypal disorder is understood as occupying a position on the schizophrenia spectrum, with similar (though less extreme) neurobiological features and a family genetic association with schizophrenia.

In the Bangladesh context, the assessment of schizoid and schizotypal presentations requires sensitivity to the role of social withdrawal as a response to adverse social circumstances (including trauma, stigma, and economic marginalization) and to the cultural dimensions of magical thinking and unusual perceptual experience. As discussed in Part One, experiences that psychiatry might classify as schizotypal (such as belief in the active communication of deceased relatives, sensitivity to spiritual presences, and interpretation of coincidences as meaningful signs) are culturally normative in many Bangladeshi communities and do not in themselves indicate psychopathology.

104.4 Avoidant and Dependent Personality Patterns

Avoidant personality disorder is characterized by a pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation, manifesting in occupational and social situations. Individuals with avoidant personality disorder desire social connection and close relationships (unlike the schizoid individual, who is genuinely indifferent) but are so inhibited by fear of rejection, humiliation, and negative evaluation that they avoid social

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situations unless they are certain of being liked and accepted. They are preoccupied with being criticized or rejected, and they experience themselves as socially inept, personally unappealing, or inferior to others.

Avoidant personality disorder lies on a continuum with social anxiety disorder, and the distinction between the two remains a source of genuine nosological debate. The principal distinction is one of pervasiveness and depth: social anxiety disorder involves anxiety about specific social situations in which the person fears performing badly or being negatively evaluated, while avoidant personality disorder involves a more pervasive self-concept of inadequacy and a more fundamental avoidance of social involvement that extends to intimate relationships and not merely to performance situations. In ICD-11 terms, avoidant personality disorder would be characterized by moderate to severe personality disorder severity with prominent Detachment (motivated by anxiety) and Negative Affectivity trait domains.

Dependent personality disorder is characterized by a pervasive and excessive need to be taken care of that leads to submissive and clinging behavior and fears of separation, as well as difficulty making everyday decisions without excessive advice and reassurance, difficulty disagreeing with others for fear of losing support, discomfort with being alone, and urgently seeking a new relationship for support when one close relationship ends. As discussed above, the application of dependent personality disorder in the Bangladesh cultural context requires careful attention to the degree to which the described behaviors exceed culturally normative levels of interdependence and relational deference. The clinician should assess whether the person's dependent behavior is pervasive across all relationships (including those with friends and siblings, not only family authorities), whether it is associated with significant personal distress, and whether it produces impairment in functioning that the person themselves finds problematic.

104.5 Anankastic (Obsessive-Compulsive) Personality Disorder

Anankastic personality disorder, captured in ICD-11 through the Anankastia trait domain, is characterized by perfectionism, excessive concern with rules and orderliness, rigidity, and difficulty delegating tasks or working with others. Individuals with anankastic personality disorder have excessively high standards for their own performance and for others', are preoccupied with rules, schedules, and correct procedure to the degree that they sometimes cannot complete tasks, and have difficulty with flexibility, leisure, and spontaneous enjoyment because of their relentless focus on productivity and correctness.

Unlike OCD, which involves ego-dystonic obsessions and compulsions that the person recognizes as excessive and wishes to be rid of, anankastic personality disorder features are ego-syntonic: the person believes that their standards, their orderliness, and their insistence on doing things correctly are appropriate and even admirable, and they experience distress primarily when others fail to meet their standards or when they cannot achieve perfection rather than from the standards themselves.

In Bangladesh, the clinical assessment of anankastic personality disorder must attend carefully to the interface between culturally normative conscientiousness and religious observance on one

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hand and pathological perfectionism on the other. In a cultural context where religious observance may involve detailed attention to the correct performance of ritual acts, where professional and educational culture places intense emphasis on accuracy and excellence, and where social norms may reward orderliness and responsibility, the degree of functional impairment and the degree to which the patterns are pervasive and inflexible become the primary clinical criteria.

104.6 Histrionic and Emotionally Expressive Personality Patterns

Histrionic personality disorder, not retained as a specific category in ICD-11 but captured dimensionally through a combination of Negative Affectivity and Disinhibition with a particular interpersonal style, is characterized by pervasive and excessive emotionality and attention-seeking. Individuals with this pattern are consistently uncomfortable when they are not the center of attention, are seductive or provocative in their interaction with others, display rapidly shifting and shallow emotional expression, use physical appearance to draw attention to themselves, are impressionistic and lacking in detail in their expression of opinions, and are easily influenced by others or by circumstances.

The assessment of histrionic features in Bangladesh requires particular cultural sensitivity because patterns of emotional expressiveness, including expressive physical presentation, dramatic narrative styles, and the communication of distress through somatic symptoms and behavioral performance, are shaped by cultural norms in ways that do not straightforwardly map onto the DSM's conception of "excessive" emotionality. What appears dramatically excessive in a Northern European cultural context may be culturally normative in a South Asian setting. Conversely, the specific use of emotional performance to manage interpersonal relationships and secure attention may be more culturally entrenched in settings where direct emotional communication is constrained, producing histrionic-like patterns as culturally adaptive strategies rather than personality disorder.

CHAPTER ONE HUNDRED AND FIVE: PERSONALITY DISORDERS IN BANGLADESH - EPIDEMIOLOGY, CLINICAL REALITIES, AND SYSTEMIC CHALLENGES

105.1 The Epidemiological Landscape

Epidemiological data on personality disorders in Bangladesh is extremely limited, reflecting the broader data poverty in Bangladeshi mental health research and the specific methodological challenges of assessing personality disorder in community settings. The National Mental Health Survey Bangladesh 2019 provided estimates for a range of mental disorders but did not include detailed estimates specifically for personality disorders, partly because of the methodological difficulty of assessing enduring personality patterns in a cross-sectional survey setting.

From indirect evidence, including the rates of help-seeking for conditions closely associated with personality disorders (particularly BPD-related self-harm, suicidal behavior, and emotional

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crises; ASPD-related conduct problems and criminality; and the personality disorder comorbidities of addiction, depression, and anxiety), and from the experiences of clinicians working in Bangladesh's major psychiatric services, it is possible to form a general impression of the personality disorder landscape. Personality disorders are clinically common in Bangladeshi psychiatric settings, as they are globally. The relative distribution of personality disorder types, and the specific clinical presentations seen in Bangladesh, differ from Western clinical populations in ways that reflect both genuine epidemiological differences and the cultural shaping of personality pathology expression and help-seeking.

Global meta-analytic estimates place the prevalence of any personality disorder in community samples at approximately 7 to 12 percent, with the most common types being obsessive-compulsive, avoidant, and narcissistic personality disorders in most community studies, and borderline and antisocial personality disorders being overrepresented in clinical and forensic samples. There is no compelling reason to think that the underlying prevalence of personality disorders in Bangladesh would be dramatically different from the global estimate, though the clinical recognition and service access for these conditions is substantially lower.

A systematic review of personality disorder epidemiology in low- and middle-income countries, published in the Lancet Psychiatry in 2023, found that the available evidence from LMIC settings consistently identified personality disorders as both common and substantially undertreated. The review noted that the assessment tools used in most LMIC studies had not been adequately validated for the cultural contexts in which they were applied, that help-seeking for personality disorder was substantially less common in LMIC settings than in high-income settings, and that the interaction between personality disorder and social adversity in LMIC settings was particularly complex, with high rates of early adversity contributing to personality disorder risk in populations already experiencing substantial social and economic stress.

105.2 Pathways to Help-Seeking: How People with Personality Disorders Come to Clinical Attention in Bangladesh

The pathways through which people with personality disorders come to clinical attention in Bangladesh differ substantially from those in high-income countries, and these differences have important implications for how the conditions are recognized and managed.

In high-income countries, many people with personality disorders reach specialist mental health services through primary care referral, through self-referral as a result of media literacy about mental health conditions and personality disorders, or through crisis services following suicidal behavior or self-harm. A substantial proportion of people with BPD in high-income countries identify with the diagnosis and have actively sought assessment for it, sometimes after reading about it online or hearing others' experiences through mental health advocacy communities.

In Bangladesh, these pathways are largely absent. Mental health literacy about personality disorders is extremely low among both the public and most health professionals outside major urban psychiatric services. People with BPD or other personality disorders typically come to clinical attention through one of several emergency or crisis routes: self-harm or suicide attempts that bring the person to an emergency department; a family crisis in which dramatic

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behavioral manifestations of personality disorder (psychotic-like episodes, severe emotional crises, serious interpersonal violence) lead the family to seek help; or the co-occurrence of an acute psychiatric episode (major depression, brief psychotic episode, substance intoxication) that brings the person to psychiatric services where the personality disorder is then identified on more careful assessment.

The family is typically the primary mediator of help-seeking in Bangladesh, and the family's understanding of and attitude toward the person's difficulties profoundly shapes the clinical presentation. A family that understands a young woman's emotional crises and self-harm as evidence of possession by a jinn will take her to a spiritual healer before (if ever) presenting to psychiatric services. A family that understands the same behaviors as a character failing or as deliberate manipulation may respond with shame, anger, and withdrawal rather than with help-seeking. And a family that attributes the difficulties to the person's distressing life circumstances may focus on social solutions (changing the marriage, relocating the person, restructuring family roles) before considering psychiatric assessment.

When people with personality disorders do reach clinical attention in Bangladesh, they typically present to general hospitals, upazila health complexes, or primary care settings where the clinician has limited training in personality disorder recognition and assessment. The personality disorder may be missed entirely, with the presenting symptoms (emotional crisis, self-harm, somatic symptoms) attributed to other conditions. Or it may be partly recognized but responded to with inappropriate clinical interventions including multiple hospitalizations, polypharmacy, or repeated reassurance and support that inadvertently reinforces the crisis behavior.

105.3 Stigma, Therapeutic Nihilism, and the Challenge of Clinical Engagement

The stigma associated with personality disorders in clinical settings is a serious and well-documented problem globally, and it has particular resonance in Bangladesh. Multiple studies in high-income countries have found that patients with diagnoses of BPD or ASPD are often viewed by mental health professionals as manipulative, treatment-resistant, difficult, and not genuinely ill. These negative attitudes are associated with poorer quality of care, reduced empathy, more punitive clinical responses, and worse outcomes.

The concept of therapeutic nihilism, the belief that personality disorders are essentially untreatable, is particularly damaging. While this belief has some historical basis in the inadequate treatment approaches of earlier decades, it is directly contradicted by the evidence base for contemporary treatments for BPD and other personality disorders, which demonstrates that effective, evidence-based treatments exist and that substantial functional improvement is achievable. A clinician who approaches a patient with BPD with the belief that they are untreatable is very unlikely to provide the patient with appropriate treatment, is very likely to respond to the patient's difficult behaviors with frustration and rejection, and may thereby confirm and perpetuate the very patterns of relationship dysfunction that characterize the disorder.

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In Bangladesh, therapeutic nihilism about personality disorders is compounded by very limited training in personality disorder assessment and treatment, by the lack of specialized personality disorder services, and by a predominantly biomedical clinical culture that is less equipped to engage with the psychosocial complexity of personality disorder than with the more straightforwardly pharmacological management of psychosis or depression. The challenge of clinical engagement with personality disorders in Bangladesh requires not only the development of appropriate services but a fundamental shift in clinical attitudes, from therapeutic nihilism toward a recovery-oriented, evidence-based, and compassionate approach.

105.4 Personality Disorders and the Bangladeshi Health System: Service Gaps and Practical Realities

The service needs of people with personality disorders differ in important ways from the service needs of people with other common psychiatric conditions, and these differences create particular challenges for the Bangladeshi health system.

People with severe personality disorders, particularly BPD, have intensive service needs that include access to appropriate psychotherapy, crisis support, safety planning and management of self-harm and suicidal behavior, management of comorbid psychiatric conditions, and social support addressing the domains of housing, employment, and social relationships. In high-income countries with well-developed mental health systems, these needs are increasingly met through specialized personality disorder services that provide comprehensive, integrated, and often long-term care. No equivalent specialized services exist in Bangladesh.

What exists in Bangladesh for people with personality disorders is primarily the acute psychiatric inpatient unit and the general outpatient psychiatric clinic, neither of which is well suited to the management of personality disorders. Acute inpatient units are designed for the management of acute psychiatric emergencies including psychosis, severe depression, and mania, and their brief, structured, medication-focused approach is poorly matched to the needs of personality disorder patients who may present in crisis but whose fundamental difficulties require sustained psychotherapeutic intervention rather than brief pharmacological stabilization. The revolving-door pattern of repeated brief hospitalizations that is characteristic of inadequately treated severe personality disorders in high-income countries is also seen in Bangladesh, where each hospitalization provides temporary crisis containment without addressing the underlying personality disorder.

The development of appropriate services for personality disorders in Bangladesh is a significant public health priority. This development does not require, in the first instance, the creation of highly specialized services modeled on those in high-income countries. Rather, it requires: building awareness and assessment skills across the health system, so that personality disorders are recognized and distinguished from other presentations; training general psychiatric clinicians in the principles and practical skills of personality disorder management; developing adapted versions of evidence-based psychotherapies that are feasible in the Bangladeshi context; creating clear clinical pathways for people with personality disorders, including crisis protocols that avoid inappropriate or counterproductive hospitalization; and advocating for the social

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supports (safe housing, economic independence, protection from violence) that are essential components of recovery.

CHAPTER ONE HUNDRED AND SIX: TREATMENT OF PERSONALITY DISORDERS - EVIDENCE-BASED APPROACHES AND THEIR ADAPTATION FOR BANGLADESH

106.1 The Evidence Base for Psychological Treatment of Personality Disorders

The evidence base for the treatment of personality disorders has grown substantially over the past three decades, and it is considerably more encouraging than the therapeutic nihilism that historically characterized clinical attitudes toward these conditions. While personality disorders, by their nature, are not conditions that respond to brief interventions and require sustained, relationship-based treatment, there is now good evidence that several specific psychological treatments are effective in reducing the severity of personality disorder features and improving functional outcomes.

The strongest evidence base exists for the treatment of borderline personality disorder, reflecting both the clinical significance of the condition and the research investment it has attracted. The most extensively studied and best-established treatments for BPD include Dialectical Behavior Therapy (DBT), Mentalization-Based Treatment (MBT), Transference-Focused Psychotherapy (TFP), Schema Therapy (ST), and Good Psychiatric Management (GPM). A 2020 Cochrane systematic review of psychological treatments for BPD found convincing evidence of benefit from several of these approaches, with DBT having the largest and most replicated evidence base for reducing self-harm and suicidal behavior.

For ASPD and antisocial personality disorder more broadly, the evidence base is considerably less developed, partly because this population is more difficult to engage in treatment research and partly because the affective features that characterize severe ASPD (specifically the callousness and lack of remorse associated with high psychopathy) may genuinely limit treatment responsiveness. However, there is some evidence that behavioral and contingency management approaches, adapted cognitive-behavioral interventions, and in younger populations, multisystemic therapy can produce meaningful improvements in behavioral outcomes.

For other personality disorders including narcissistic, paranoid, schizoid, dependent, avoidant, and anankastic types, the evidence base for specific treatments is weaker, though several general principles of psychological treatment for personality disorders apply across these conditions. These include the importance of a collaborative, non-authoritarian therapeutic relationship; attention to the processes of the therapeutic relationship itself as a vehicle for change; the use of formulation to understand the specific patterns of the individual's personality disorder within a developmental and relational framework; and sensitivity to the activation of personality disorder patterns within the therapeutic relationship itself.

106.2 Dialectical Behavior Therapy: Principles, Structure, and Evidence

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Dialectical Behavior Therapy (DBT), developed by Marsha Linehan at the University of Washington, is the most extensively researched and most broadly implemented evidence-based treatment for BPD, and it deserves detailed consideration both for its clinical content and for its potential adaptability to the Bangladeshi context.

DBT's theoretical foundation in the biosocial model of BPD has been described above. The treatment draws on three philosophical and theoretical traditions: behavioral science (cognitive-behavioral approaches to understanding and modifying problematic behaviors), acceptance (Zen Buddhist mindfulness and acceptance practices that provide tools for tolerating distress without worsening it), and dialectics (a philosophical approach that seeks to transcend opposing positions through a synthesis that honors the truth in both). The central dialectic in DBT is the dialectic of acceptance and change: the therapist accepts the patient and their behavior as understandable and reasonable given their history, while simultaneously working with the patient toward behavioral change that improves their life.

Standard DBT has four components. Individual therapy is the central component, typically meeting weekly for one hour per session, and uses behavioral chain analysis to understand the environmental, cognitive, emotional, and behavioral sequences that produce problematic behaviors, and solution analysis to develop and rehearse alternative responses. Skills training, delivered in a group format typically meeting weekly for two to two-and-a-half hours per session, teaches four modules of behavioral skills: mindfulness (the foundational skill of observing experience with awareness and without judgment), interpersonal effectiveness (skills for getting what one needs in relationships while maintaining those relationships and self-respect), emotion regulation (skills for understanding, modulating, and changing intense emotional states), and distress tolerance (skills for surviving crises without making them worse). Phone coaching provides brief skills coaching between sessions when patients are at risk of or engaged in problematic behavior. Therapist consultation team meetings provide supervision and support for therapists to prevent burnout and maintain therapeutic fidelity.

A landmark systematic review published in 2024 in the International Journal of Cognitive Behavioral Therapy described DBT as meeting the threshold of a "gold standard" treatment for certain populations and behaviors, particularly for reducing self-harm and suicidal behavior in BPD. The review noted that over the past thirty years since the first randomized clinical trial of DBT in 1991, the evidence base has grown to include multiple randomized controlled trials across different countries, different age groups (including adolescent-specific adaptations, DBT-A), different clinical settings (inpatient, outpatient, forensic), and different comorbidities.

Particularly relevant to the Bangladesh context is the growing evidence for briefer, less resource-intensive formats of DBT. A 2024 randomized noninferiority trial found that six months of comprehensive DBT was noninferior to the standard twelve months on the primary outcome of total self-harm, and that briefer treatment showed more rapid improvements in some outcomes. A separate 2024 effectiveness trial found that group-based DBT skills training alone, delivered in a more time-limited format, produced comparable outcomes to a more intensive program including individual therapy. These findings suggest that the full standard DBT program, while effective, may not be the only viable format, and that more accessible, resource-efficient adaptations may be feasible and effective.

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A 2025 bibliometric analysis of global DBT research found that DBT research has grown significantly since the 1990s but remains heavily concentrated in high-income countries, particularly the United States, United Kingdom, and Germany, with limited contributions from low- and middle-income countries. This geographical concentration is a significant limitation: the evidence base has been generated almost entirely in Western cultural contexts, and the applicability of DBT to non-Western settings including Bangladesh is not well established empirically. However, theoretical considerations support the likely relevance of DBT's core principles (biosocial model of emotion regulation difficulties, skills training approach, dialectical philosophical framework) to the Bangladeshi context, and the experience of adapting DBT in other South Asian cultural contexts (India, in particular) provides useful precedents.

A telehealth DBT pilot study published in JMIR Formative Research in 2025, involving participants in Germany and Canada, found that online delivery of comprehensive DBT showed large pre-to-post effect sizes for BPD symptoms and quality of life, with acceptable safety and feasibility, though dropout rates were relatively high. While the specific findings of this study are not directly applicable to Bangladesh's much more limited digital infrastructure, they suggest that technological innovations in DBT delivery may gradually extend its reach in low-resource settings as digital access improves.

The adaptation of DBT for the Bangladeshi context would require several modifications. The philosophical and conceptual framing of DBT would need to be adapted to the Bangladeshi cultural idiom: the mindfulness component, which draws on Zen Buddhist concepts that are not widely familiar in Bangladesh's predominantly Muslim cultural context, could be reframed using concepts from Islamic spiritual practice (particularly the Sufi tradition's emphasis on awareness and presence) or from local cultural wisdom traditions. The skills module content would need to be adapted to the specific relational and social challenges that Bangladeshi patients face, including the specific interpersonal dynamics of family and kinship relationships, the role of gender in shaping emotional experience and expression, and the specific social stressors including poverty, domestic violence, and social marginalization that characterize the lives of many patients with BPD in Bangladesh. The group format may need adaptation to accommodate the specific social sensitivities around mental health disclosure in group settings, and the logistics of attendance may need to be simplified for patients with limited transportation and childcare access.

106.3 Mentalization-Based Treatment: Principles and Clinical Application

Mentalization-Based Treatment (MBT), developed by Peter Fonagy and Anthony Bateman at the Tavistock Clinic in London, is the second major evidence-based treatment for BPD with an established randomized controlled trial evidence base. MBT is grounded in the attachment theory of mentalization described above, and its core therapeutic goal is the development or restoration of the capacity to understand behavior in terms of mental states.

The theoretical principle underlying MBT is that people with BPD have a characteristically fragile and reactive capacity for mentalization: under neutral, low-stress conditions, they may be able to understand their own and others' mental states reasonably well, but when the attachment system is activated by interpersonal stress, perceived abandonment, or relationship conflict, the

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mentalizing capacity breaks down and is replaced by more primitive modes of experience including psychic equivalence (treating mental states as identical to external reality, so that thoughts and feelings feel absolutely true and immediately real), pretend mode (disconnection from genuine emotional experience, with a superficial engagement with mental state language that lacks affective resonance), and teleological thinking (understanding behavior purely in terms of its physical rather than mental consequences, leading to the belief that only physical actions, including self-harm, can affect or communicate emotional states).

The MBT therapist responds to these breakdowns in mentalization not with interpretations or cognitive challenges but with a specific therapeutic stance designed to re-activate the mentalizing capacity: slowing down, stopping and rewinding in conversations when the patient's mentalizing has broken down, being genuinely curious and uncertain rather than authoritative about mental states, explicitly modeling not-knowing in relation to the patient's experience, and working explicitly on the moments in the therapeutic relationship itself where misunderstanding and misattunement have occurred.

A 2024 meta-analysis of MBT randomized controlled trials, published in Psychological Medicine, found that MBT was significantly superior to control conditions on outcomes including self-harm, suicidal behavior, general psychiatric symptoms, and interpersonal functioning, with effect sizes in the moderate range. The meta-analysis also found that MBT was delivered effectively in a range of formats including individual therapy, group therapy, and combined individual plus group programs, providing options for adaptation in different service contexts.

The potential applicability of MBT to the Bangladeshi context is significant. The theory of mentalization breakdown under attachment stress is culturally relevant, and the therapeutic stance of curiosity and not-knowing resonates with the needs of patients whose experience has been systematically invalidated and who may experience dogmatic authoritative clinical approaches as re-enacting rather than healing this invalidation. The challenge is to develop the training infrastructure for MBT-informed practice in Bangladesh, where the prerequisite knowledge of attachment theory, developmental psychology, and psychodynamic concepts is not widely available in psychiatric training programs.

106.4 Schema Therapy: The Conceptual Framework and Evidence

Schema Therapy (ST), developed by Jeffrey Young, is a treatment that integrates cognitive-behavioral, attachment, and object relations approaches within a framework centered on the concept of "early maladaptive schemas" and "schema modes." Early maladaptive schemas are pervasive, self-perpetuating patterns of thought, feeling, and memory that develop through early adverse experiences and that shape the person's characteristic way of interpreting and responding to current experience. Schema modes refer to the states of mind that are activated when schemas are triggered, including child modes (characteristic emotional states associated with the unmet early needs that generated the schemas), parent modes (internalized critical or punishing voices that repeat early experiences of criticism, rejection, or abuse), and coping modes (the behavioral and psychological strategies used to manage schema pain, including avoidance, surrender, and overcompensation).

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The Schema Therapy approach for BPD specifically targets the characteristic schema modes associated with this condition: the vulnerable child mode (an activated state of intense emotional pain, loneliness, and fear), the angry child mode (intense rage in response to perceived injustice or abandonment), the punitive parent mode (a harsh internal critic that generates shame and self-punishment), the detached protector mode (an emotional shutdown that provides protection at the cost of genuine connection), and the impulsive or undisciplined child mode (acting on impulse without regard for consequences). Therapy works to heal the vulnerable child, temper and reduce the punitive parent, limit-set with the angry and impulsive child, and reduce the detached protector in favor of genuine emotional engagement.

The 2024 PRO-BPD randomized clinical trial, published in Psychotherapy and Psychosomatics, was the first to directly compare DBT and Schema Therapy in a head-to-head trial for severe BPD. The study found that both treatments produced significant and comparable improvements in BPD severity over eighteen months, with no significant difference between them on the primary outcome of BPD symptom severity at one-year follow-up. This finding is clinically important because it suggests that clinicians and services can choose between DBT and ST based on patient characteristics, therapist competence, and service context rather than being obligated to use one specific approach.

A 2025 secondary analysis of the same trial explored which patients might benefit more from DBT versus ST, finding some preliminary evidence that patients with less severe personality disorder impairment may respond somewhat better to DBT, though the explorative nature of these analyses requires replication before clinical recommendations can be made. The general conclusion remains that both approaches are effective and that individual patient characteristics and preferences should guide the choice between them where both are available.

106.5 Good Psychiatric Management: A Practical Framework for Non-Specialist Settings

Good Psychiatric Management (GPM), developed by John Gunderson as a manualized, evidence-based approach to managing BPD in general psychiatric settings, deserves particular attention in the Bangladesh context because of its practicality and its accessibility to general psychiatric clinicians without specialized psychotherapy training.

GPM is organized around three core principles. First, case management: GPM emphasizes that the psychiatrist or general psychiatric clinician can provide effective management of BPD through active case management that addresses real-life problems, coordinates care, and maintains a consistent and collaborative therapeutic relationship. Second, psychoeducation: GPM places significant emphasis on psychoeducating the patient and often their family about BPD, including what it is, what causes it, what the evidence-based treatments are, and what realistic expectations for recovery look like. Third, interpersonal coherence: GPM is organized around the theory that BPD features are fundamentally activated by interpersonal stress, particularly around the themes of attachment, dependency, and feelings of abandonment and rejection, and that the primary clinical task is to understand the interpersonal triggers of the patient's symptoms and crises within this framework.

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GPM has been shown in a randomized controlled trial to produce outcomes comparable to those of DBT, and it is substantially easier to deliver in routine clinical settings because it does not require the multi-component structure (individual therapy, skills group, phone coaching, consultation team) of standard DBT. A GPM-based approach to BPD management in Bangladesh, drawing on the clinical training of general psychiatrists and psychiatric nurses, represents a feasible and evidence-based first step toward improving the quality of personality disorder care in the country.

106.6 Pharmacological Treatment of Personality Disorders: Evidence, Limits, and Bangladesh Context

Pharmacological treatment of personality disorders has a complex evidence base. No medication has been approved by any regulatory authority specifically for the treatment of any personality disorder, and the evidence for pharmacological interventions comes primarily from randomized controlled trials of symptom-targeted medications for specific symptom domains (emotional dysregulation, impulsivity, cognitive-perceptual symptoms) rather than for the personality disorder as a whole.

For BPD, the most consistent evidence from randomized controlled trials supports the use of mood stabilizers (particularly valproate, lamotrigine, and to some extent lithium) and second-generation antipsychotics (particularly low-dose olanzapine and aripiprazole) for the management of specific symptom domains including impulsivity, emotional dysregulation, and cognitive-perceptual distortions. Antidepressants, including SSRIs, have weaker evidence for BPD than might be expected given the high rates of depressive symptoms, partly because the emotional instability of BPD does not respond to antidepressants in the same way as major depression does. Omega-3 fatty acids have shown some evidence of benefit for impulsivity and affective dysregulation in BPD in preliminary trials.

A critical evidence-based principle in the pharmacological management of personality disorders is that medication should be used to target specific, clearly defined symptom domains rather than as a substitute for psychotherapy, and that it should be used for the shortest effective period rather than indefinitely. The pattern of extensive, chronic polypharmacy that is common in people with severe personality disorders in clinical settings in many countries, including Bangladesh, is not supported by the evidence base and may cause significant harm through drug interactions, metabolic effects, and the implicit message to the patient that their difficulties are primarily pharmacologically addressable.

In Bangladesh, the practical management of personality disorders will inevitably involve medication as part of a broader management plan, partly because psychotherapeutic options are so limited and partly because comorbid psychiatric conditions (including depression, anxiety, and substance use disorders) require pharmacological management. The principles of rational, symptom-targeted, time-limited prescribing should guide this pharmacological management, and clinicians should be explicit with patients about what medication can and cannot achieve in the management of personality disorder.

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CHAPTER ONE HUNDRED AND SEVEN: PERSONALITY DISORDERS AND CO-OCCURRING CONDITIONS IN BANGLADESH

107.1 The Landscape of Comorbidity

Personality disorders have extraordinarily high rates of comorbidity with other psychiatric conditions, and these comorbidities profoundly shape the clinical presentation, the treatment challenge, and the outcome for individuals with personality disorders in Bangladesh.

The rates of comorbidity between personality disorders and major depressive disorder are very high: meta-analytic estimates suggest that approximately 50 to 80 percent of individuals with BPD also meet criteria for major depressive disorder at some point in their illness course. The nature of the relationship between BPD and depression is complex: while some individuals have co-occurring BPD and major depression as distinct conditions, in many cases the depressive symptoms in BPD are best understood as manifestations of the personality disorder itself rather than as a separate condition. The clinical distinction matters because the treatment implications are different: BPD-related depressive symptoms are better addressed through personality-disorder-specific psychotherapies than through antidepressant medication alone, which has limited efficacy for the core features of BPD.

Anxiety disorders, particularly generalized anxiety disorder, social anxiety disorder, and PTSD, are also extremely common in personality disorders. PTSD deserves particular attention because of its complex relationship with BPD: the two conditions share several phenomenological features (emotional dysregulation, interpersonal difficulties, identity disturbance, self-harm) and have significant epidemiological overlap, with a substantial proportion of individuals meeting criteria for both conditions. As noted in the previous chapter, the ICD-11's introduction of Complex PTSD as a new diagnostic category reflects an attempt to capture the broader self-organizational disturbances that develop in the context of repeated traumatic experiences, and Complex PTSD in ICD-11 is defined specifically to be distinct from BPD, though the relationship between these two conditions remains a subject of active research and debate.

Substance use disorders are extremely common in personality disorders, particularly in ASPD and BPD. Individuals with personality disorders may use substances to manage unbearable emotional states (self-medication), to reduce inhibition in social situations (particularly those with avoidant personality features), or as part of the impulsive, sensation-seeking behavioral pattern characteristic of Disinhibition. In Bangladesh, where substance use disorders are a growing public health problem, the comorbidity of substance use and personality disorder represents a significant challenge for a health system that has limited capacity to treat either condition, let alone both simultaneously.

Eating disorders, somatic symptom disorders, and factitious disorder all show elevated rates in personality disorders, particularly BPD, and their recognition and management in the context of personality disorder requires attention to the personality disorder as the overarching framework within which the specific behavioral symptoms are understood. Self-harm, which is a specific behavioral manifestation rather than a diagnosis, is one of the most clinically significant

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behaviors associated with BPD and requires specific clinical protocols for assessment and management.

107.2 Suicidal Behavior and Self-Harm in Personality Disorders: Clinical Assessment and Management

Suicidal behavior and non-suicidal self-injury (NSSI) are among the most clinically urgent features of borderline personality disorder. Approximately 70 to 80 percent of individuals with BPD engage in deliberate self-harm at some point in their illness course, and approximately 8 to 10 percent die by suicide, a rate that is approximately fifty times higher than in the general population and that represents one of the highest suicide rates of any psychiatric condition.

The clinical assessment of suicidal behavior in BPD requires distinguishing between non-suicidal self-injury (NSSI, deliberate self-harm without suicidal intent, whose primary functions include emotion regulation, communication of distress, and self-punishment) and genuine suicidal behavior (self-harm with intent to end life). This distinction is important because NSSI and suicidal behavior require different clinical responses, though they often coexist and the boundary between them is not always clear. A person who cuts themselves primarily to regulate emotion may not intend to die, but the injury may sometimes be more severe than intended and may occasionally be accompanied by passive suicidal ideation.

The risk factors for completed suicide in BPD are similar to those in other populations (male sex, older age, social isolation, recent major loss, comorbid major depression, substance use) but with some BPD-specific factors (history of multiple previous attempts, particularly those requiring medical intervention; impulsivity; access to lethal means). The assessment of suicide risk in BPD should attend to these specific risk factors and should recognize that risk in BPD is characteristically highly variable over time, peaking dramatically in the context of interpersonal crisis and subsiding as the crisis resolves, rather than being static.

The clinical management of self-harm and suicidal behavior in BPD has been transformed by the recognition that repeated hospitalizations for NSSI, while often clinically reflexive and seemingly protective, may paradoxically reinforce the behavior by providing relief from intolerable social situations, access to desired care and attention, and temporary avoidance of problems that need to be addressed. DBT's approach to self-harm management emphasizes behavioral chain analysis to understand the specific triggers and maintaining factors of the self-harm, development of alternative coping strategies through skills training, crisis plans that specify concrete behavioral alternatives to self-harm during crises, and telephone coaching to support crisis management outside session. This approach, while demanding of clinical resources, produces better outcomes for self-harm reduction than repeated hospitalization.

In Bangladesh, the management of self-harm in personality disorder occurs primarily in emergency department and general medical settings, where the clinical response often involves brief medical management of the self-harm injury followed by limited psychiatric assessment and return to the community without systematic follow-up or psychotherapeutic intervention. The development of clinical protocols for the management of self-harm in personality disorder in

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Bangladeshi emergency and general psychiatric settings, including training in safety assessment, crisis planning, and appropriate referral pathways, is an important clinical priority.

107.3 Personality Disorders and Intimate Partner Violence: The Bangladesh Perspective

The relationship between personality disorders and intimate partner violence (IPV) in Bangladesh deserves specific clinical attention. As noted above, IPV is extremely common in Bangladesh, with rates substantially higher than in most countries with comparable development indices. The role of personality disorder in IPV in Bangladesh operates through multiple pathways and affects both perpetrators and survivors.

Among perpetrators of IPV, personality disorder features including explosive temperament, impulsivity, narcissistic entitlement, antisocial attitudes, and emotional dysregulation contribute to the risk of violent behavior. However, as emphasized earlier, it is critical that the clinical framing of IPV does not primarily individualize and pathologize the perpetrator's violence at the expense of attending to the social, cultural, and legal conditions that enable and perpetuate IPV in Bangladesh. Personality disorder assessment of IPV perpetrators should inform intervention planning, including whether behavioral interventions focused on anger and impulse management are likely to be effective, but should not substitute for legal accountability, safety planning for survivors, and advocacy for the social and legal changes that are ultimately necessary to reduce IPV.

Among survivors of IPV, personality disorder features including emotional dysregulation, interpersonal hypervigilance, low self-worth, and difficulty leaving damaging relationships may develop or be exacerbated by chronic exposure to IPV. The relationship between chronic IPV exposure and the development of BPD or C-PTSD features is clinically significant: survivors of chronic IPV may present with the emotional instability, identity disturbance, and interpersonal difficulties of BPD, and the clinical response must attend to the traumatic relational context in which these features have developed, rather than attributing them to a pre-existing personality disorder without adequate consideration of the causal role of the violence itself.

The safety assessment of women presenting with personality disorder features in Bangladesh must include routine inquiry about IPV, recognition of the barriers to disclosure (fear of the perpetrator, shame, economic dependency, absence of legal protection), and connection to appropriate safety resources. The development of trauma-informed personality disorder services that integrate IPV recognition and safety planning is a clinical and public health priority.

CHAPTER ONE HUNDRED AND EIGHT: PHILOSOPHICAL, ETHICAL, AND PUBLIC HEALTH PERSPECTIVES ON PERSONALITY DISORDERS IN BANGLADESH

108.1 The Philosophy of Personality, Character, and Responsibility

The personality disorders raise philosophical questions of unusual depth and practical importance. At their core, these questions concern the relationship between character,

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responsibility, and moral agency: to what degree are the enduring patterns of experience and behavior that constitute personality disorders within the voluntary control of the person, and to what degree do they represent constraints on agency that should mitigate moral and legal responsibility?

This is not merely an abstract philosophical question. It has direct practical consequences in clinical management, in forensic assessment, and in the social attitudes toward people with personality disorders. If personality disorder is understood as a voluntary character failing, then the appropriate response is moral exhortation, discipline, and punishment. If it is understood as an involuntary biological condition, like diabetes or hypertension, then the appropriate response is medical treatment without any expectation of personal responsibility. Neither of these extreme positions is satisfactory, and the most thoughtful philosophical accounts of personality disorder navigate between them.

Aristotle's account of character and its cultivation in the Nicomachean Ethics provides a useful starting point. For Aristotle, character is formed through the habitual repetition of actions, which gradually form stable dispositions to act, feel, and perceive in characteristic ways. These dispositions, once formed, are stable and relatively resistant to change, but they are not absolutely fixed: through sustained effort, reflection, and changed circumstances, character can be gradually modified, though this modification is slow and difficult. On an Aristotelian account, a person with an antisocial character is responsible for the character they have formed through their past actions, though they are less free to change that character immediately and dramatically than a person without such character formation. This account resonates with the clinical reality of personality disorders, in which patterns are relatively stable but are nonetheless amenable to gradual change through sustained psychotherapeutic work.

The philosopher Christine Korsgaard has offered an influential account of personal identity and self-constitution that has interesting implications for personality disorder. Korsgaard argues that persons constitute themselves as agents through their reflective endorsement or repudiation of their impulses and desires: what makes an action one's own is not simply that it arises from one's impulses but that it has been reflectively endorsed by one's practical identity. On this account, the person who acts from the impulsive, dysregulated, or aggressive patterns of personality disorder without the capacity for reflective endorsement or repudiation of those patterns may have diminished but not absent agency: they may be genuinely capable of gradually developing a different relationship to their character patterns through therapeutic work, even if they cannot simply choose to act differently in the moment.

In Bangladesh, these philosophical questions about personality, character, and responsibility have cultural dimensions. The Islamic tradition, which shapes moral thinking in Bangladesh, places strong emphasis on personal moral responsibility and on the capacity for repentance and self-reform. The concept of nafs (the self or soul, understood as having different levels ranging from the impulse-driven nafs al-ammarah to the tranquil nafs al-mutmainnah) provides an Islamic framework for understanding the struggle between impulse and reflection that is central to personality disorder, and the Islamic spiritual practice of muhasaba (self-accounting and self-examination) has interesting resonances with the metacognitive and mentalizing focus of contemporary psychological treatments for personality disorders. The development of culturally

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informed approaches to personality disorder that draw on these Islamic psychological and spiritual concepts, while maintaining the empirical grounding of evidence-based treatment, is an important area for future research and clinical development.

108.2 The Ethics of Diagnosis: Personality Disorders and Moral Judgment

The personality disorder diagnoses, perhaps more than any other psychiatric diagnoses, risk becoming vehicles for moral judgment rather than clinical assessment. This risk is real and well-documented, and it deserves explicit ethical attention.

The most obvious example is antisocial personality disorder, whose criteria overlap substantially with descriptions of criminal and morally blameworthy behavior. The diagnosis of ASPD can slide very easily from a clinical description of behavioral patterns into a moral condemnation, and the clinical labeling of a person as having ASPD can have the effect of naturalizing and essentializing behaviors that have complex social and contextual explanations. In forensic contexts, the ASPD diagnosis has sometimes been used to argue for the incurability and permanent dangerousness of individuals, thereby supporting indefinite detention or execution without adequate evidence that such conclusions follow from the diagnosis.

The BPD diagnosis carries a different but equally real risk of becoming a vehicle for clinical contempt. As noted above, people with BPD are often described by mental health professionals as manipulative, attention-seeking, and treatment-resistant in ways that conflate the description of their behavior with negative moral evaluation. The labeling of a patient's suicidal behavior as "manipulative" or "attention-seeking" is both clinically inaccurate (suicidal behavior in BPD is the expression of genuine distress, even when it also serves communicative functions) and ethically problematic (it implicitly blames the patient for having the needs that drive their behavior).

The ethical practice of personality disorder diagnosis requires a constant vigilance against these risks. This vigilance involves several specific commitments: always contextualizing the personality disorder features within the person's developmental history and social circumstances; maintaining genuine empathy for the suffering that underlies even the most challenging behavioral manifestations; being explicit about the uncertainty involved in diagnosis and about the degree to which diagnostic categories are clinical tools rather than natural kinds; involving the person in their own diagnostic formulation and treatment planning; and using diagnostic language in ways that convey clinical information without implicit or explicit moral condemnation.

In Bangladesh, the ethics of personality disorder diagnosis must also attend to power dynamics within the clinical relationship and within the health system. The clinician in Bangladesh typically occupies a position of high social authority relative to the patient, and this authority can be used in ways that further disempower an already marginalized person with personality disorder. The ethical practice of personality disorder care in Bangladesh requires a conscious effort to respect the person's own understanding of their experience, to communicate in accessible language that does not rely on specialized jargon to establish professional authority, and to create genuine space for the person's own goals and priorities in the treatment plan.

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108.3 Personality Disorders, Human Rights, and the Legal Framework in Bangladesh

The Mental Health Act of Bangladesh 2018, which replaced the colonial-era Lunacy Act of 1912, provides the current legal framework for psychiatric care in Bangladesh, including the management of people with severe personality disorders. The Act is organized around principles of voluntary and involuntary treatment, the rights of people with mental illness to treatment, information, dignity, and protection from abuse, and the legal procedures for involuntary admission and treatment.

People with personality disorders occupy an ambiguous position within this legal framework. The severe emotional and behavioral crises associated with BPD may meet the criteria for involuntary admission (specifically, the criterion of immediate risk to self) in ways that justify brief crisis intervention. However, the repeated, chronic invocation of involuntary treatment powers in the management of personality disorders, particularly as a response to non-suicidal self-harm, is ethically problematic and clinically counterproductive: it removes the person's agency in managing their crises, reinforces the behavior by providing the relief of hospital admission, and does not address the underlying personality disorder.

The United Nations Convention on the Rights of Persons with Disabilities (CRPD), ratified by Bangladesh in 2007, applies to people with severe personality disorders to the degree that the personality disorder constitutes a significant impairment in functioning. The CRPD's requirements regarding legal capacity are particularly relevant: Article 12 requires that persons with disabilities have legal capacity on an equal basis with others, and that states provide supported decision-making rather than substituted decision-making. For people with severe personality disorders, this means that clinical paternalism in management, including decisions to override the person's expressed preferences about treatment in the name of their welfare, requires extremely careful justification and should be limited to situations of genuine incapacity and immediate risk.

The protection of people with personality disorders from abuse, exploitation, and discrimination is an important human rights priority in Bangladesh. The social stigma associated with personality disorders creates vulnerability to various forms of discrimination including in employment, education, and social participation. The legal framework for anti-discrimination protection in mental health is underdeveloped in Bangladesh, and advocacy for stronger legal protections for people with personality disorders and other mental health conditions is an important civil society and clinical advocacy priority.

108.4 A Public Health Framework for Personality Disorders in Bangladesh

A public health approach to personality disorders in Bangladesh must operate at three levels: primary prevention (reducing the incidence of personality disorders by addressing their known risk factors), secondary prevention (reducing the harm caused by personality disorders through early recognition and effective intervention), and tertiary prevention (reducing the chronic disability and social exclusion associated with severe personality disorders through rehabilitation and social support).

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Primary prevention of personality disorders requires addressing the social conditions that generate personality disorder risk. The most important of these in Bangladesh include the high rates of childhood physical punishment and abuse, which require sustained public education and the enforcement of laws protecting children from violence; the high rates of intimate partner violence, which require legal reform, economic empowerment of women, and cultural change; the poverty and adversity that limit access to the nurturing early childhood environments that support healthy personality development; and the inadequate and sometimes abusive management of children with neurodevelopmental conditions and psychiatric difficulties, which may generate or exacerbate personality disorder risk through additional layers of adverse relational experience.

Secondary prevention requires building awareness and assessment skills across the health system and community. This includes training primary care clinicians and general health workers to recognize the warning signs of emerging personality disorder in adolescents and young adults, to distinguish personality disorder features from other presentations, and to provide appropriate referral and support. It also includes public education about personality disorders, both to reduce stigma and to empower people with emerging difficulties to seek help at an earlier stage.

Tertiary prevention requires the development of appropriate treatment services for people with established severe personality disorders, as discussed extensively in the treatment chapter. It also requires attention to the social domains of recovery: housing security (which is a critical need for people with severe personality disorders, who may be at risk of homelessness due to relationship breakdowns, employment difficulties, and economic vulnerability), economic independence (through supported employment and disability benefits where needed), protection from violence and exploitation, and the development of social connections and community belonging that support recovery.

The integration of personality disorder services into Bangladesh's emerging mental health service development offers an opportunity to design these services in ways that learn from the errors of high-income country health systems, specifically the tendency to concentrate personality disorder care in crisis-focused acute services rather than in sustained community-based therapeutic programs. The design of community-based personality disorder programs in Bangladesh, drawing on the principles of GPM and adapted evidence-based psychotherapies and delivered through trained community mental health workers and primary care clinicians with specialist supervision, represents a feasible and potentially transformative approach to this significant public health problem.

CHAPTER ONE HUNDRED AND NINE: COMPREHENSIVE CASE STUDIES IN PERSONALITY DISORDER

Case Study 109.1: Borderline Personality Disorder in a Young Bangladeshi Woman - The Complex Terrain of Diagnosis and Care

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Nasreen is a twenty-four-year-old woman from a middle-income family in Dhaka who is brought to a psychiatric emergency department by her husband after he found her with shallow cuts on both forearms and a bottle of paracetamol tablets, of which she had taken an undetermined number. It is the third time in the past year that Nasreen has presented to emergency services following self-harm or a self-poisoning attempt.

The emergency physician who first sees Nasreen notes that she is physically stable, emotionally distraught, and alternately weeping intensely and becoming silently withdrawn. She does not wish to speak to the physician and asks him repeatedly to call her sister rather than her husband. Her husband is visibly distressed and frustrated and tells the physician that Nasreen "does this all the time" whenever they argue, and that he suspects she is doing it to manipulate him and get her own way.

The on-call psychiatrist takes a careful history after Nasreen has been medically assessed. Nasreen describes the events of the past twenty-four hours: a serious argument with her husband about her spending time with her sister and former school friends, which she experienced as a fundamental challenge to her right to any independent relationships. She describes feeling that her husband's anger meant he was about to leave her, a prospect that she found literally unbearable. She describes the subjective experience of the emotional crisis that followed in vivid and striking terms: "it feels like my inside is on fire, like my skin is burning and there's nothing I can do, and the only thing that made it stop for a moment was the cutting."

The psychiatrist elicits a developmental history through careful conversation with Nasreen across two sessions over the following forty-eight hours of admission. Nasreen describes a childhood in which she felt profoundly invalidated by her mother, who consistently responded to her emotional distress with impatience, dismissal, or contempt ("you always make everything about yourself," "nobody wants to hear your crying all the time"). She describes a sense of having spent her childhood performing happiness while feeling utterly alone. She was married at nineteen to a man her parents approved of but whom she had met only twice, and the marriage has been characterized by recurring cycles of intense closeness followed by violent arguments, reconciliation, and further conflict.

The psychiatric assessment identifies the following features: marked emotional dysregulation with rapidly shifting and intense emotional states; a pattern of intense but unstable close relationships characterized by idealization and devaluation (she describes her husband as alternatively the most wonderful and most cruel person she has ever known); chronic feelings of emptiness and uncertainty about who she is and what she wants from life; recurrent self-harm (cutting) and at least three parasuicidal acts in the past year; intense fear of abandonment that is readily activated by real or imagined rejection; and occasional episodes under severe stress of what appear to be brief dissociative experiences.

The clinical formulation understands Nasreen's difficulties within the biosocial model: a biologically sensitive emotional system that makes her emotional responses more intense and more rapidly escalating than most, combined with a profoundly invalidating relational environment in childhood that failed to teach her skills for experiencing and managing intense emotions without acting on them. The marital relationship, which replicates aspects of the

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invalidating family environment (a partner who responds to her emotional intensity with contempt and threats of abandonment), both activates her earliest relational templates and reinforces the crisis behaviors that temporarily regulate her emotional flooding.

The diagnosis of borderline personality disorder is made, following careful assessment that has attended to the developmental context, the consistency of the patterns across time and situations, and the distinction from adjustment disorder (which would not produce this level of pervasive and long-standing difficulty) and from a primary mood or psychotic disorder.

The communication of the diagnosis to Nasreen is handled with particular care. The psychiatrist explicitly avoids the language of "personality disorder" in the initial communication, recognizing both its stigmatizing potential and its limited clinical utility for a patient who has no prior awareness of the concept. Instead, the psychiatrist describes the clinical picture in terms of "difficulties with emotional regulation and relationships that developed because of your particular emotional sensitivity and early experiences of not having your feelings understood and accepted." This reframing resonates strongly with Nasreen, who says with visible relief: "so the problem is not that I am a bad person? Because that's what I've always been told."

Psychoeducation about the nature of BPD is provided gradually over several outpatient sessions, using materials adapted to be accessible and non-stigmatizing. Nasreen's husband is invited to a family session in which the psychiatrist explains the clinical picture in educational terms and addresses the family's attribution of her self-harm as manipulation. The husband's own emotional response to her crises, including his pattern of becoming angry and threatening to leave, is explored not with criticism but with curiosity about how his responses and Nasreen's emotional system interact in ways that escalate rather than resolve crises.

Pharmacological management is limited and targeted: low-dose quetiapine is used for brief periods during acute emotional crises to help modulate the emotional flooding, but the psychiatrist explicitly communicates that medication is not the primary treatment and that the evidence supports psychotherapy as the most effective approach for the core difficulties.

The treatment plan includes referral to a psychologist with some DBT training (one of a very small number in Dhaka) for individual therapy, with the aim of developing emotion regulation skills, improving distress tolerance, and gradually working on the interpersonal patterns that maintain the crisis cycle. Given the unavailability of a formal DBT skills group, the psychologist adapts key skills from the DBT manual for individual delivery. A crisis plan is developed with Nasreen that specifies concrete steps she can take when she notices the early signs of emotional escalation, including calling her sister, going for a walk, using a cold water technique (not as self-harm but as sensory regulation), and calling the psychiatry hotline if these strategies are insufficient.

At follow-up over the following eighteen months, Nasreen's self-harm episodes reduce significantly in frequency and severity, though they do not cease entirely. She begins to develop a more differentiated understanding of her emotional experiences and more capacity to notice the interpersonal triggers of her crises without immediately acting on the overwhelming emotional response. Her relationship with her husband improves modestly, partly because his

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understanding of her experience has increased through the psychoeducation and partly because her capacity to communicate her needs without crisis behavior has begun to develop. She herself describes the change as "I still feel everything very intensely, but now I know that's just who I am. The feelings don't mean something is irreparably broken anymore."

This case illustrates several themes of central importance in this Part: the biosocial model of BPD and its clinical applicability; the importance of a formulation-based, non-judgmental approach to diagnosis communication; the critical role of psychoeducation for both the patient and her family; the adaptation of evidence-based approaches to the resource-limited Bangladeshi context; and the realistic but genuine possibility of meaningful recovery even when full symptom remission is not achieved.

Case Study 109.2: Antisocial Personality Disorder in a Young Man - Social Context, Clinical Assessment, and the Limits of Medicalization

Karim is a twenty-eight-year-old man who is referred for psychiatric assessment by his defense lawyer following arrest for his involvement in a violent altercation in which a member of a rival political student group was seriously injured. It is not his first arrest: he has a history of three previous arrests including one for extortion and one for assault, the latter resulting in a brief prison sentence. He has no history of psychiatric contact.

The assessment is requested to determine whether Karim has any mental disorder that might be relevant to his legal situation and to assess his current mental state. The psychiatrist conducting the assessment approaches it with awareness of the complex ethical territory of forensic psychiatric assessment, including the dual role of psychiatrist (as clinician and as expert for the court) and the potential for personality disorder assessment to be used in legally and ethically problematic ways.

The clinical interview with Karim reveals a young man who is initially guarded and strategic in his self-presentation. He presents himself as a political activist who has been defending his community against a rival group, and he shows no visible remorse for the injury caused to the victim of the assault. He uses language that normalizes the violence as a natural extension of political conflict ("this is how politics works here, everyone does it") and attributes responsibility for the incident to the rival group ("they started it").

A careful developmental history reveals several important facts. Karim grew up in poverty in a Dhaka slum, the third of six children in a family in which his father was frequently absent and often drunk when present. Physical punishment was severe and frequent. He left school at fourteen to work, and was recruited into the political student wing of a local political party at age sixteen by a neighborhood leader who provided income, social belonging, and protection. The wing's activities gradually escalated from distributing political literature to enforcing political control through intimidation and violence. Karim has been embedded in this organization for twelve years, and it represents his primary social world, his income, his identity, and his protection.

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Psychological testing reveals average intellectual functioning. Structured assessment using adapted PCL-R interview methods finds elevated scores on the behavioral-lifestyle features of psychopathy (including criminal versatility, parasitic lifestyle, and irresponsibility) but lower scores on the affective-interpersonal features (Factor 1): Karim shows genuine emotional responsiveness in the interview, expresses genuine warmth toward his mother and younger siblings, and demonstrates what appears to be genuine rather than superficial distress when discussing his mother's health problems.

The psychiatric formulation understands Karim's antisocial behavior primarily within a social context rather than a personality disorder framework. His persistent antisocial behavior reflects an adaptation to a social environment in which political violence was normalized, rewarded, and embedded in the structures of power and income on which he depended for survival, rather than a fundamental deficit in the capacity for empathy or moral reasoning. The affective-interpersonal features of psychopathy are not prominent, and his interpersonal relationships, while limited to the political organization, include genuine emotional connections.

The clinical opinion provided to the court is that Karim does not have a formal mental disorder that would undermine criminal responsibility for his actions, but that his behavior reflects both social and developmental risk factors that are relevant to rehabilitation planning. The psychiatrist is explicit in the report that the primary explanatory framework for Karim's behavior is social and contextual rather than characterological, and that rehabilitation interventions that address his social situation (alternative sources of income, housing, and social belonging outside the violent political network) are likely to be more effective than individually focused psychiatric treatment.

This case illustrates the critical importance of social context in the assessment of antisocial behavior in Bangladesh, the risks of medicalizing behaviors that have primarily social explanations, and the ethical complexity of forensic psychiatric assessment in a cultural and political context where the normalization of violence in certain political subcultures creates genuinely difficult questions about the boundaries of personality disorder diagnosis.

Case Study 109.3: Anankastic Personality Disorder in a Medical Professional - The Cultural Complexity of Perfectionism

Dr. Hasan is a forty-two-year-old surgeon at a major Dhaka teaching hospital who self-refers to a psychiatrist after his wife of fifteen years informs him that she is considering separation because of his "impossible standards" and his inability to be present emotionally in the marriage. He comes to the appointment clearly ambivalent: he acknowledges that his wife's complaints have some basis but he is also convinced that his commitment to excellence in his work is not something he should have to apologize for.

The clinical history reveals a man who has organized his entire life around the achievement of perfection. He routinely works twelve to sixteen hour days, cannot delegate tasks to junior colleagues because he is convinced they will do them inadequately, spends evenings and weekends reviewing his surgical cases for any technical imperfection, and experiences any mistake, however minor, as a catastrophic failure that occupies his rumination for weeks. His

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marriage has suffered because he applies the same standards of correctness and efficiency to domestic and relational life that he applies to surgery, cannot tolerate his wife's more relaxed approach to schedules and household management, and has difficulty allowing himself the unstructured time and emotional openness that his wife needs from him.

He describes his personal and family history as important context. His father was a strict disciplinarian who communicated love primarily through achievement and who responded to any failure or carelessness with significant disapproval and withdrawal. His achievement of a medical degree and surgical specialization was the fulfillment of his father's highest aspirations, and the standards he applies to himself are, in his own understanding, the internalized voice of his father's expectations. He is aware of this intellectually but finds it very difficult to disengage from these standards emotionally.

The assessment identifies the core features of anankastic personality disorder: perfectionism that interferes with task completion (he sometimes cannot finish case reviews because he keeps finding more to analyze), preoccupation with details, rules, and schedules to the degree that the larger purpose of activities is lost, excessive devotion to work at the expense of leisure and relationships, rigidity and stubbornness in interpersonal situations, and difficulty delegating tasks to others. The disorder is of moderate severity: it has not prevented him from achieving professional success, but it is significantly impairing his marital and family relationships and is associated with significant personal distress (he reports that the constant self-monitoring and perfectionism feel exhausting and imprisoning rather than satisfying).

The cultural dimensions of this presentation are particularly complex. In a Bangladeshi professional context, his level of dedication to his work would be understood by most of his colleagues as not just acceptable but admirable: the committed surgeon who gives his all for his patients. The values of hard work, precision, and high standards are genuinely important in surgical practice and are culturally reinforced in the medical profession. The clinical assessment therefore needs to carefully distinguish between what is culturally normative and adaptive in his presentation and what represents a pathological rigidity that goes beyond these norms to the degree that it causes significant impairment in important areas of functioning.

The treatment approach chosen is a combination of individual psychotherapy using schema therapy principles and a limited degree of systemic work involving his wife. The schema therapy formulation identifies the "demanding standards" schema as the core organizing principle of his personality functioning, driven by the internalized critical parent voice associated with his father's conditional regard. Initial work focuses on exploring the developmental origins of this schema and its costs as well as its contributions to his life, with the goal of creating enough emotional distance from the schema to enable more flexible and autonomous choices about how he applies his standards. Marital sessions help his wife understand the psychological dynamics underlying his rigidity and provide a space for negotiating relational changes that address her needs while not asking him to make changes that feel catastrophically threatening to his sense of identity.

At follow-up at one year, Dr. Hasan reports modest but meaningful changes: he has reduced his working hours slightly, has learned to delegate some tasks to colleagues he has gradually come

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to trust, and has made genuine efforts to be more emotionally available in his marriage. He remains a highly conscientious and demanding professional, but the perfectionism has softened enough to allow more flexibility and more capacity for genuine relational presence. He describes the process as "learning that I can be an excellent surgeon and a good husband at the same time, which I genuinely did not believe was possible when we started."

Case Study 109.4: Narcissistic Personality Disorder in a Business Leader - Power, Vulnerability, and the Limits of Self-Awareness

Rahul is a forty-five-year-old business executive who has built a successful garment manufacturing enterprise in Narayanganj, employing over two thousand workers. He is referred by his personal physician, to whom he has been complaining of persistent insomnia and a pervasive sense of dissatisfaction and emptiness despite his commercial success. He comes to the psychiatric consultation reluctantly, having first discussed the referral with his physician as a matter of "stress management."

The clinical interview reveals a man who is superficially confident and articulate but whose self-presentation has a studied quality, as though he is performing competence for an audience. He speaks at length about his business achievements, the scale of his enterprise, and the respect he commands in the business community. His narrative of his life is one of exceptional talent meeting exceptional success. He has difficulty discussing difficulties, failures, or vulnerabilities: when the interviewer asks about any period of self-doubt or significant failure, he deflects to descriptions of challenges he overcame rather than engaging with the emotional experience of uncertainty.

The history reveals a pattern of significant interpersonal difficulties that Rahul consistently locates as the failures of others rather than as reflecting any dimension of his own functioning. He has had multiple failed business partnerships, which he attributes to the inadequacy and dishonesty of his partners. His first marriage ended in divorce, which he attributes to his former wife's jealousy of his success. His current marriage is described as difficult because his wife "doesn't understand the pressures I face." He has several children from both relationships whom he sees infrequently and who are described in generalized, distanced terms rather than with the specific emotional attunement that characterizes close parental relationships.

His reason for consultation, the insomnia and sense of emptiness, begins to be understood in the context of a recent narcissistic injury: a major business contract was lost to a competitor, and this failure has been experienced as devastating in ways that feel disproportionate to the business reality of losing a single contract. He has found himself unable to sleep, preoccupied with the perceived injustice of the loss, and struggling to maintain the sense of superiority and specialness that has sustained his functioning.

The assessment identifies narcissistic personality disorder of moderate severity, with prominent grandiosity, entitlement, exploitation of others in business and personal relationships, lack of empathy for those he works with and for his family members, and underlying vulnerability that becomes apparent when the grandiose performance is threatened. The presenting crisis is

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understood as a narcissistic injury that has temporarily destabilized the defensive structure that normally protects him from his own underlying vulnerability and emptiness.

Treatment is complex and progresses slowly, because Rahul's fundamental engagement with therapy is complicated by the same features that characterize his personality disorder: he tends to use the therapeutic relationship as a further arena in which to perform competence, he is resistant to genuine exploration of his vulnerability, and he is liable to devalue the therapist when confronted with uncomfortable material. The therapist's consistent maintenance of a warm but non-admiring stance, the patient and repeated exploration of the gap between the performed self and the underlying emotional experience, and the gradual building of enough therapeutic alliance to allow genuine self-reflection represent the core of the therapeutic work.

The Bangladeshi cultural context is particularly relevant here. In a hierarchical social context that rewards successful businessmen with significant status and deference, Rahul's narcissistic defenses have been consistently reinforced by his social environment: people defer to him, accommodate his unreasonable demands, and rarely challenge his self-presentation. The therapeutic relationship provides, perhaps for the first time, a relational space in which his grandiosity is acknowledged but not reinforced, and in which genuine curiosity about his inner experience, including his vulnerability, is maintained consistently.

CHAPTER ONE HUNDRED AND TEN: PERSONALITY DISORDERS ACROSS THE LIFESPAN IN BANGLADESH - PREVENTION, EARLY INTERVENTION, AND LONG-TERM RECOVERY

110.1 Personality Disorders in Adolescence: Recognition, Ethics, and Early Intervention

Personality disorders are, by definition, conditions of early adulthood onset, and DSM-5-TR allows for the diagnosis of personality disorders in individuals under eighteen in specific circumstances (when the features have been present for at least one year and are not simply manifestations of adolescent developmental processes). The ICD-11 similarly recognizes that personality disorder features can be identified and clinically significant in adolescence, though the diagnostic threshold requires particular care because of the normative fluidity of personality in adolescent development.

The recognition of emerging personality disorder in adolescence is clinically important because early intervention offers the greatest opportunity to modify the developmental trajectory before the personality patterns become deeply entrenched. Research, including studies by Andrew Chanen and colleagues in Melbourne, has demonstrated that early intervention programs targeting emerging personality disorder features in adolescents can be effective, and that treatment-as-usual for adolescent psychiatric presentations that include personality disorder features is associated with poor outcomes that become significantly worse without specific intervention.

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In Bangladesh, the recognition of emerging personality disorder in adolescents is an almost entirely absent clinical practice. The features that would, in a well-resourced setting, prompt assessment for emerging BPD or other personality disorder (persistent emotional dysregulation, self-harm, intense and unstable relationships, identity confusion, impulsivity) are most commonly attributed in the Bangladeshi clinical context to adolescent adjustment difficulties, family conflict, or academic pressure, and specific personality disorder assessment is not routinely performed. The development of training for child and adolescent mental health professionals in the recognition and early management of emerging personality disorder in adolescents is an important clinical priority.

The ethics of diagnosing personality disorders in adolescents require particular care. The potential for a personality disorder diagnosis to stigmatize a young person, to become a self-fulfilling prophecy that limits clinical expectations and the person's own self-concept, and to pathologize what may be normative if challenging aspects of adolescent development, are genuine risks that require the exercise of careful clinical judgment. The use of formulation-based language that describes the specific functional difficulties and their developmental context, rather than categorical labeling, is particularly important in working with adolescents.

110.2 Adult Personality Disorders: The Long-Term Trajectory

The long-term trajectory of personality disorders in adulthood, as established by major longitudinal studies including the McLean Study of Adult Development, the Collaborative Longitudinal Personality Disorders Study (CLPS), and the Longitudinal Study of Personality Disorders (LSPD), reveals a more optimistic picture than older clinical wisdom suggested.

The key finding across these studies is that symptomatic remission (no longer meeting full diagnostic criteria for the personality disorder) is common over time, with remission rates for BPD reaching approximately 85 percent at ten years and remaining stable thereafter. However, functional recovery (returning to full-time work, maintaining close relationships, and achieving a satisfying quality of life) is considerably less common and occurs in only a minority of individuals even after symptomatic remission.

This dissociation between symptomatic and functional recovery has important implications for clinical practice and service design. Treatments that effectively reduce acute symptoms and crises (including DBT's focus on reducing self-harm and suicidal behavior) may produce symptomatic improvements without fully addressing the functional impairment that prevents recovery in a meaningful sense. Addressing functional recovery requires attention to the social domains of work, relationships, and community participation, and to the psychological capacities (social skills, occupational confidence, capacity for close relationships) that have often been compromised by the personality disorder's impact on development.

For Bangladesh, the implication is that clinical management of personality disorders cannot focus only on crisis stabilization and symptom reduction, but must include attention to the recovery domains of employment, social relationships, and community participation. This requires collaboration between psychiatric services and social welfare, vocational rehabilitation, and community organizations that can support the social dimensions of recovery.

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110.3 Older Adults and Personality Disorders: An Underrecognized Challenge

The clinical recognition and management of personality disorders in older adults is an area of growing importance that receives insufficient attention in both global and Bangladeshi psychiatric literature. Traditionally, personality disorder research and clinical attention has focused on younger adults, partly because of the conventional assumption that personality disorders improve spontaneously with age, and partly because older adults are underrepresented in clinical trials and research studies.

The available evidence on personality disorders in older adults (aged sixty-five and over) suggests that while many personality disorder features do moderate with age (particularly impulsivity and behavioral dysregulation), certain features may persist or even worsen in late life. Affective features of BPD including chronic emptiness, identity instability, and interpersonal sensitivity may persist, and the losses and transitions associated with ageing (retirement, bereavement, declining health, reduced social connections) may activate personality disorder features that had been partially dormant in the context of productive work and active social roles.

In Bangladesh, where the proportion of older adults in the population is increasing and where mental health services for older adults are essentially nonexistent, the recognition and management of personality disorders in this age group is an almost invisible clinical challenge. Clinicians working with older adults in Bangladesh should maintain awareness of personality disorder as a possible framework for understanding persistent emotional and interpersonal difficulties in this age group, and should not assume that longevity alone has resolved personality disorder features that may have been present throughout the individual's life.

An ongoing clinical trial registered on ClinicalTrials.gov (NCT05548946), "A Dimensional Model for Personality Disorders in Later Life," is evaluating whether the ICD-11 and DSM-5 AMPD dimensional frameworks for personality disorder are appropriate for use in older adults, with completion expected in late 2025. This research will provide important evidence about the validity of current personality disorder assessment approaches in older populations and will inform the clinical management of this underrecognized group.

CHAPTER ONE HUNDRED AND ELEVEN: CONTROVERSIES IN PERSONALITY DISORDER PSYCHIATRY

111.1 Is Borderline Personality Disorder a Trauma Disorder? The Ongoing Debate

One of the most active and consequential debates in the personality disorder field concerns the relationship between BPD and Complex PTSD, and more broadly, the question of whether BPD should be reconceptualized as primarily a trauma disorder rather than a personality disorder. This debate has important clinical and ethical dimensions.

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The argument for reconceptualizing BPD as a trauma disorder rests on several lines of evidence. First, the very high rates of childhood trauma (particularly sexual and physical abuse, and neglect) in BPD samples support the view that early relational trauma plays a central causal role in BPD development. Second, the phenomenological overlap between BPD and Complex PTSD is substantial: both involve emotional dysregulation, identity disturbance, interpersonal difficulties, and self-destructive behavior. Third, some advocates argue that the "personality disorder" label implicitly attributes the difficulties to a fundamental defect in the person's character, while the "trauma disorder" framing more accurately locates the cause in the experiences the person has endured, which is more accurate and less stigmatizing.

The argument against straightforward reconceptualization is also substantial. First, the genetic research demonstrates significant heritable liability for BPD, which cannot be fully accounted for by a purely trauma-based model. Second, while ICD-11 has created Complex PTSD as a new diagnosis designed to capture the self-organizational disturbances of chronic trauma, it has explicitly defined C-PTSD and BPD as distinct conditions, based on evidence that they differ in key features: BPD is characterized by the pervasive use of primitive defenses (particularly splitting and projective identification), identity diffusion, and the specific interpersonal patterns of rapid idealization and devaluation that are less characteristic of C-PTSD.

Third, and perhaps most importantly from a clinical perspective, the reconceptualization as trauma disorder must not obscure the reality that many (perhaps most) individuals with BPD who have experienced trauma do not have PTSD in the conventional sense: they may not experience intrusive recollections, nightmares, or classic hyperarousal associated with trauma, and their difficulties are not primarily organized around the traumatic events themselves but around the enduring patterns of self-experience and interpersonal functioning that the early adverse relational environment produced.

The clinically most defensible position is to recognize trauma as a critical causal and maintaining factor in many (not all) cases of BPD, to provide trauma-informed care that acknowledges and addresses the traumatic history, to assess for C-PTSD as a co-occurring or alternative diagnosis where the criteria are met, and to use the BPD framework for understanding and treating the specific personality-level features that persist beyond the acute trauma response.

111.2 Gender and Personality Disorder Diagnosis: The Questions of Bias and Validity

The question of whether personality disorder diagnoses are applied in gender-biased ways is a persistent and important controversy in the field. The observation that BPD is diagnosed significantly more commonly in women and ASPD significantly more commonly in men has raised the question of whether these gender differences reflect genuine epidemiological differences, differential clinical recognition and help-seeking, or systematic gender bias in diagnosis.

Evidence for gender bias in personality disorder diagnosis comes from several sources. Studies presenting clinicians with identical case vignettes but labeling the patient as male or female have found that clinicians are more likely to diagnose BPD in the female patient and ASPD in the

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male patient, even when the presented features are identical. This suggests that clinician expectations and stereotypes about gender-appropriate presentations influence diagnostic decisions in ways that may not reflect the actual distribution of personality disorder features across genders.

Moreover, there is evidence that men who meet criteria for BPD may be more likely to receive diagnoses of ASPD, substance use disorder, or depression, because the behavioral manifestations of their emotional dysregulation (externally directed aggression, substance use, risk-taking) are more gender-normative for men than the self-directed behavioral manifestations (self-harm, suicidal behavior) that tend to be associated with the female presentation of BPD. Women with ASPD-level antisocial features may similarly be more likely to receive diagnoses of BPD or histrionic personality disorder because of the clinician's implicit assumption that antisocial personality is primarily a male condition.

In Bangladesh, these gender biases in personality disorder diagnosis are likely to operate through culturally specific mechanisms. The cultural expectations around appropriate emotional expression for Bangladeshi men and women shape not only the behavioral manifestations of personality disorder but also the clinical recognition of those manifestations. A Bangladeshi woman's intense emotional expressions and self-harm may be more readily recognized as personality disorder symptoms, while a Bangladeshi man's explosive anger, controlling behavior, and risk-taking may be normalized as consistent with culturally expected male behavior rather than recognized as personality disorder features. The development of gender-sensitive approaches to personality disorder assessment in Bangladesh requires explicit attention to these cultural norms and to the ways they shape both presentation and clinical recognition.

111.3 The Concept of the "Untreatable" Personality Disorder: Historical Roots and Contemporary Challenges

The belief that personality disorders, particularly BPD and ASPD, are essentially untreatable is one of the most persistent and harmful myths in clinical psychiatry, and one that continues to shape clinical attitudes and service design in both high-income countries and Bangladesh.

The historical roots of therapeutic nihilism about personality disorders lie in several sources. Early psychoanalytic theory suggested that the character disorders required extremely long-term treatment that was beyond the capacity of most patients and most clinical services to sustain. The institutional psychiatric culture of the mid-twentieth century, focused on the management of psychotic and severe mood disorders, had limited exposure to personality disorder patients and even more limited treatment resources for them. And the genuine clinical difficulty of working with people with severe personality disorders, including the intense emotional demands of the therapeutic relationship, the frequency of crises and self-destructive behavior, and the apparent resistance to the kind of rapid symptom change that pharmacological treatment of depression or psychosis could sometimes achieve, understandably produced frustration and pessimism.

However, the evidence accumulated over the past thirty years directly contradicts therapeutic nihilism about personality disorders. As reviewed in the treatment chapter, multiple randomized

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controlled trials have demonstrated that specific psychological treatments (DBT, MBT, ST, TFP, GPM) produce clinically meaningful improvements in BPD symptoms and functioning, and that these improvements are sustained over follow-up. The longitudinal research demonstrates that even without specific treatment, a majority of individuals with BPD achieve symptomatic remission by middle adulthood. The evidence thus supports a genuinely optimistic prognosis for personality disorders while being honest about the time course: meaningful change typically occurs over years rather than months, and functional recovery often lags behind symptomatic improvement.

The persistence of therapeutic nihilism in clinical practice, including in Bangladesh, is not primarily an evidence-based phenomenon but a cultural one. Changing clinical attitudes toward personality disorders requires sustained effort at multiple levels: education of clinical trainees about the evidence base for treatment, supervision and support for clinicians working with personality disorder patients to prevent burnout and maintain therapeutic optimism, systemic change in service design to create pathways for sustained personality disorder treatment rather than crisis-only responses, and cultural change in psychiatric training programs that promote the recovery model and person-centered approaches for all psychiatric conditions including personality disorders.

CHAPTER ONE HUNDRED AND TWELVE: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART NINE

112.1 Key Themes from Part Eight

Part Eight has examined personality disorders from the conceptual, historical, neurobiological, clinical, cultural, and public health perspectives most relevant to the Bangladeshi clinical and policy context. Several key themes emerge from this examination that merit consolidation.

The ICD-11's revolution in personality disorder classification, from categorical specific disorder types to a dimensional severity-plus-traits framework, represents an important conceptual advance that better aligns clinical practice with the scientific evidence about the nature of personality pathology. The centrality of severity as the primary clinical consideration, and the recognition that all personality disorders share a common foundation of impaired self and interpersonal functioning, provides a more clinically meaningful and more cross-culturally applicable framework than the previous categorical system. For Bangladesh, which is transitioning to ICD-11, the adoption of this dimensional framework in clinical training and practice is an important priority.

Personality disorders are common, clinically significant, and largely unaddressed in Bangladesh. While precise prevalence data is lacking, the burden of personality disorder in the Bangladeshi population is likely to be substantial, and its contribution to psychiatric crises, self-harm, interpersonal violence, substance use disorders, and chronic functional impairment represents a major and inadequately recognized public health problem. The development of

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clinical awareness, assessment capacity, and treatment services for personality disorders is a necessary component of any comprehensive mental health service development in Bangladesh.

Cultural sensitivity is essential in every dimension of personality disorder work in Bangladesh. The cultural shaping of personality, of emotional expression, of relational norms, and of help-seeking behavior means that the direct application of criteria and frameworks developed in Western cultural contexts requires constant critical reflection. The development of culturally validated assessment tools, culturally adapted treatment approaches, and culturally informed clinical training is an essential investment for the future of personality disorder psychiatry in Bangladesh.

The evidence base for psychological treatment of personality disorders, while primarily developed in Western cultural contexts, provides a genuine foundation for optimism about the possibility of meaningful clinical intervention. DBT, MBT, GPM, and Schema Therapy all have evidence of effectiveness that is likely to generalize, with appropriate cultural adaptation, to the Bangladeshi context. The development of training infrastructure for these approaches in Bangladesh, beginning with the adaptation of GPM principles for use by general psychiatric clinicians, represents a feasible and high-impact investment in clinical capacity.

The social determinants of personality disorder development and recovery are profound and must be addressed alongside clinical treatment. The high rates of childhood adversity in Bangladesh, including physical punishment, sexual abuse, domestic violence, and poverty-related deprivation, represent modifiable risk factors for personality disorder whose reduction through upstream public health and social welfare interventions is an important primary prevention priority. The recovery of individuals with severe personality disorders requires attention to the social domains of housing, economic security, protection from violence, and social belonging, alongside the psychological dimensions of therapeutic work.

The philosophical and ethical dimensions of personality disorder work are particularly challenging and deserve sustained engagement. The risk of personality disorder diagnoses becoming vehicles for moral judgment rather than clinical understanding, the ethical imperative of working with people with personality disorders in ways that respect their autonomy and dignity, the importance of trauma-informed approaches that locate difficulties in developmental and social context rather than in individual character failing, and the human rights obligations toward people with severe personality disorders, are all dimensions of practice that require not only clinical skill but ethical clarity and ongoing critical reflection.

112.2 Philosophical and Public Health Reflections

The personality disorders illuminate with particular clarity the question of where the biological ends and the biographical begins in human suffering. Every personality disorder reflects an enduring pattern of experience and behavior that has been shaped by both the biological inheritance of the individual (genetic temperament, neurodevelopmental trajectory, neuroendocrine systems) and by the accumulated history of their relational experiences from infancy onward. The attempt to separate these contributions cleanly is ultimately futile: they are interpenetrating at every level, from the molecular (epigenetic modifications of developmentally

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relevant genes by early relational experience) to the phenomenological (the first-person experience of one's emotional life as it has been shaped by love, loss, validation, and invalidation).

For the clinician in Bangladesh, this insight has practical implications. The person sitting across the consulting room with a history of repeated self-harm, intense and unstable relationships, and profound identity confusion did not choose the biological sensitivity with which they entered the world, did not choose the family environment in which that sensitivity was met with invalidation, did not choose the cultural context that constrained their emotional expression and limited their access to support. What they can do, and what effective treatment aims to support, is develop a gradually more flexible and reflective relationship to the patterns that have developed from these unchosen beginnings. This is a therapeutic task of genuine difficulty and genuine importance, and it deserves to be recognized as such, not with therapeutic nihilism but with informed, compassionate, and sustained therapeutic commitment.

From a public health perspective, the message of this Part is consistent with the messages of earlier Parts: the suffering associated with personality disorders in Bangladesh is not inevitable, and the conditions that generate personality disorder (childhood adversity, social invalidation, poverty, violence) are modifiable social conditions rather than natural facts. Every investment in improving the conditions of early childhood in Bangladesh, every reduction in the rates of childhood physical punishment, domestic violence, and childhood poverty, represents a primary prevention investment in personality health across the lifespan. And every development of clinical capacity for the recognition and treatment of personality disorders represents a secondary and tertiary prevention investment in the reduction of the chronic suffering that unrecognized and untreated personality disorders produce.

The people who live with personality disorders in Bangladesh deserve, above all, the same things that all people deserve: to be seen as whole human beings rather than diagnostic categories, to have their suffering recognized as real and serious rather than as manipulation or attention-seeking, to have access to effective help that respects their agency and their dignity, and to be supported in the genuine possibility of recovery, growth, and a life worth living. The provision of that help, in the specific conditions and with the specific resources of Bangladesh, is the challenge and the calling of personality disorder psychiatry in this country.

112.3 Preview of Part Nine

Part Nine will turn to the schizophrenia spectrum and other primary psychotic disorders: a group of conditions that are among the most severe, the most stigmatized, and the most poorly served in the Bangladesh mental health system. Schizophrenia, brief psychotic disorder, schizoaffective disorder, and related conditions will be examined in depth, covering their neurobiology, their clinical features, their cultural expressions in Bangladesh, the history of their management in the region, and the evidence-based approaches to their acute and long-term management in a resource-limited setting. Particular attention will be given to the interface between psychosis and spiritual experience, to the devastating effects of treatment delay in Bangladesh, and to the emerging evidence for early intervention approaches that offer genuinely transformative potential for the outcomes of people who develop psychotic disorders.

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CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART EIGHT

Vignette 1: A twenty-two-year-old woman is brought to the emergency department after cutting her forearms with a razor blade following an argument with her boyfriend who told her he needed some time apart. She describes the sensation of the argument as "like the floor opened and I was falling and there was nothing to hold onto," and says that the cutting "made me feel real again." This is her fifth presentation to emergency services in eighteen months. The emergency physician asks you, as the on-call psychiatry resident, to "come and assess the attention-seeker." Describe your approach to this situation, including how you would respond to the physician's framing, how you would conduct the clinical assessment, what diagnosis you would consider and why, what safety planning you would implement, and what longer-term management you would recommend.

Vignette 2: A forty-year-old man is referred to your outpatient clinic by his general practitioner with a note saying that he has been causing "significant difficulties" in the practice: making formal complaints about staff, insisting on seeing only the most senior doctors, challenging the clinical decisions of junior team members, and once threatening a nurse with a formal complaint after she did not greet him by name. He agrees to come to the clinic and presents as a successful businessman who believes he is not receiving the quality of care to which he is entitled. Describe your approach to the assessment, including your differential diagnosis (considering narcissistic personality disorder, paranoid personality disorder, and situational factors), how you would establish a therapeutic alliance, and what management you would propose.

Vignette 3: A district health officer asks you for advice about a thirty-two-year-old man in her district who has had seventeen admissions to the district hospital over the past six years following suicidal behavior and self-harm. Each admission is for two to five days, and upon discharge he is given a prescription for sedatives and an outpatient appointment that he rarely attends. He has been diagnosed with depression, adjustment disorder, and most recently "personality disorder" by different clinicians. Describe the likely clinical diagnosis, explain why the revolving-door pattern of management is happening and how it might be addressed, what alternative clinical approach you would recommend that is feasible within the resource constraints of a district hospital setting, and what training needs you would identify for the district hospital clinical team.

Vignette 4: A social worker contacts you for consultation about a twenty-eight-year-old woman who has been living in a women's shelter following fleeing severe domestic violence from her husband. She is described by shelter staff as "extremely difficult": she forms intense attachments to individual staff members who she praises effusively, then becomes enraged when they take time off or cannot be immediately available; she has cut herself on two occasions in the shelter; and she has been involved in several major conflicts with other shelter residents. She has been threatened with eviction from the shelter. Describe how you would approach this consultation, including your understanding of her behavior within a trauma-informed and personality disorder framework, how you would advise the shelter staff in a way that promotes both safety and appropriate management, and what clinical referral pathway you would recommend.

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Vignette 5: You are conducting a community outreach session at a secondary school in a Dhaka suburb. A teacher approaches you after the session and describes a sixteen-year-old girl who she is "very worried about": she has been finding the girl crying in the toilet at lunchtime on multiple occasions, has discovered that the girl has been "writing things" on her arms with a compass, and has learned from other students that the girl broke off a close friendship very dramatically last month after what seemed to be a trivial disagreement, and is now refusing to speak to her former friend at all. Describe how you would advise the teacher about this presentation, what developmental and clinical considerations you would explain, how you would recommend approaching the girl to offer assessment and support, and what your differential diagnosis would include.

STUDY QUESTIONS FOR PART EIGHT

Explain the fundamental differences between the ICD-11 personality disorder classification system and the ICD-10 and DSM-5 categorical systems. What is the evidence base that motivated the shift to a dimensional approach? What are the specific components of the ICD-11 personality disorder assessment, and how does the severity rating inform clinical management? Critically evaluate the advantages and limitations of the dimensional approach from the perspective of a clinician practicing in Bangladesh.

Describe the biosocial model of borderline personality disorder as developed by Marsha Linehan. What empirical evidence supports the two key components of the model (biological sensitivity and invalidating environment)? How does the model inform the specific components and techniques of Dialectical Behavior Therapy? How would you adapt the concepts and language of the biosocial model for explanation to a patient and family in a Bangladeshi cultural context?

Critically evaluate the relationship between childhood adversity, trauma, and the development of borderline personality disorder. What is the evidence for and against the conceptualization of BPD as primarily a trauma disorder? How does the ICD-11 category of Complex PTSD relate to BPD, and what are the clinical implications of distinguishing between these two presentations in clinical practice in Bangladesh?

Describe the major evidence-based psychological treatments for borderline personality disorder, including DBT, MBT, Schema Therapy, and GPM. For each treatment, explain its theoretical foundations, its key components, its evidence base, and the specific challenges and opportunities for its adaptation and implementation in Bangladesh. Which treatment would you recommend as the most feasible starting point for development in the Bangladeshi context, and why?

Discuss the specific cultural dimensions of personality disorder diagnosis and treatment in Bangladesh. With reference to at least three specific personality disorder presentations (for example, BPD, ASPD, and dependent personality disorder), explain how cultural norms around emotional expression, social relationships, gender, and the self may shape both the clinical presentation of the condition and the appropriate diagnostic and therapeutic approach. What

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are the risks of applying Western personality disorder diagnostic criteria without adequate cultural adaptation in Bangladesh?

Describe the neurobiology of borderline personality disorder, including the role of amygdala reactivity, prefrontal-limbic dysconnectivity, serotonin and dopamine systems, and the oxytocin system. How do these neurobiological findings relate to the core clinical features of the condition (emotional dysregulation, impulsivity, interpersonal hypersensitivity, identity instability)? What are the implications of these findings for pharmacological management, and what are the limitations of a primarily neurobiological approach to understanding BPD?

Analyze the ethical challenges of personality disorder diagnosis in Bangladesh with particular reference to the risks of moral judgment embedded in diagnostic categories, the challenge of distinguishing personality disorder from adaptive responses to adverse social circumstances, and the human rights obligations toward people with severe personality disorders. How would you approach the communication of a borderline personality disorder diagnosis to a patient and family in a way that is clinically honest, ethically responsible, and culturally sensitive?

Describe a comprehensive public health approach to personality disorders in Bangladesh, covering primary prevention (addressing risk factors), secondary prevention (early recognition and intervention), and tertiary prevention (rehabilitation and social support). For each level of prevention, identify the most important specific interventions, the platforms through which they could be delivered, the key system actors who would need to be engaged, and the research evidence (from Bangladesh and comparable settings) that supports their feasibility and effectiveness.

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End of Part Eight: Personality Disorders and Their Clinical Significance in Bangladesh

This Part is followed by Part Nine: Schizophrenia Spectrum and Other Primary Psychotic Disorders

PART NINE: THE MIND-BODY BORDERLANDS: SOMATIC SYMPTOM DISORDERS, DISSOCIATIVE DISORDERS, AND FUNCTIONAL NEUROLOGICAL CONDITIONS IN THE BANGLADESH CONTEXT

A Comprehensive Account of Clinical Science, Neurobiology, Cultural Dimensions, Epidemiology, Philosophical Analysis, Assessment, Treatment, Controversy, and Public Health Implications for Bangladesh

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INTRODUCTORY NOTE TO PART NINE

There is a domain of psychiatry that sits at the most contested frontier of the entire discipline: the territory where the body and the mind appear to speak different languages but are in fact conducting an intimate and often desperate conversation. This is the territory of somatic symptom disorders, dissociative disorders, and functional neurological conditions. It is a territory that has been called, at various points in history, hysteria, conversion, somatoform disorder, medically unexplained symptoms, functional illness, and psychosomatic disease. Each of these labels carries a different theoretical commitment, a different relationship to stigma, and a different set of clinical and ethical implications. None of them is entirely satisfactory. All of them point toward the same underlying reality: that human beings sometimes experience profound distress in ways that blur the boundaries between what we conventionally call the mental and what we conventionally call the physical, and that this blurring is not a failure of knowledge or a sign of deception but an expression of the fundamental unity of the human organism and its experience.

In Bangladesh, this territory is not marginal. It is central. The most common psychiatric presentations in Bangladeshi primary care and general medical settings are not psychosis, not

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bipolar disorder, not PTSD in its classical form. They are the diverse array of somatic complaints without clear organic explanation, the acute dissociative episodes that sweep through communities in epidemic clusters, the paralysis and blindness and seizures that appear and disappear in response to emotional stress, the bodily distress that accumulates in people who have no adequate language, or no safe context, for articulating the psychological suffering that underlies it. Understanding these conditions, in all their biological complexity, psychological depth, cultural specificity, and social embeddedness, is not a peripheral skill for the Bangladeshi clinician. It is an absolute core competency.

Part Nine is therefore one of the most important parts of this textbook for readers who will practice in Bangladesh. It moves through the history of these conditions from their ancient roots to contemporary neuroscience, examines the dramatic reclassification that has occurred in DSM-5-TR and ICD-11, explores the neurobiology of functional symptoms and dissociation with all its current controversies, surveys the clinical presentations that are most relevant in Bangladesh, and offers detailed guidance on assessment, investigation, and treatment in a resource-limited context. It also engages seriously with the philosophical questions that these conditions raise, because those questions are not academic: they shape how clinicians think about their patients, how patients think about themselves, and how societies determine whose suffering counts as real.

CHAPTER ONE HUNDRED AND THIRTEEN: THE MIND-BODY PROBLEM REVISITED: PHILOSOPHICAL AND HISTORICAL FOUNDATIONS OF SOMATIC AND DISSOCIATIVE PSYCHIATRY

113.1 The Inescapability of the Mind-Body Problem in Clinical Practice

Every clinician who has sat with a patient experiencing paralysis that does not follow neuroanatomical pathways, or a patient whose heart races and whose breathing tightens in the absence of cardiac or pulmonary pathology, or a patient who reports back pain so severe it has ended their working life but whose spine is radiologically normal, has encountered the mind-body problem in its most vivid clinical form. These are not abstract philosophical puzzles. They are suffering human beings in the clinic, and the way the clinician responds to them, what they say and what they think and what they do, depends entirely on their implicit or explicit answer to the question of how mind and body are related.

The dominant answer in Western biomedicine has been, since at least the seventeenth century, a form of dualism that descends from Descartes but is much older and more pervasive than Cartesian philosophy. In this dualist framework, illness is either physical or mental, either real or psychogenic, either organic or functional. These pairs, which are treated as if they were dichotomies, carry enormous implicit value judgments. Physical illness is real, objective, respectable, and unambiguously deserving of medical attention. Mental illness, and particularly illness that presents with physical symptoms but has no demonstrable physical cause, is suspect, potentially simulated, possibly a sign of weak character or malingering, and a matter of embarrassment for both the patient and the doctor.

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This dualist framework is, from a neuroscientific and philosophical perspective, simply wrong. The mind is what the brain does, and the brain is inseparable from the body. Emotions involve changes in heart rate, respiratory pattern, hormonal milieu, and immune function. Chronic stress produces measurable structural changes in the hippocampus and prefrontal cortex. Psychological trauma alters the functioning of the hypothalamic-pituitary-adrenal axis in ways that can persist for decades. The experience of pain involves not only peripheral nociception but also descending modulatory pathways from the brain that are powerfully influenced by psychological state, expectation, attention, and prior experience. In every conceivable way, mind and body are one, and the attempt to separate them is both scientifically indefensible and clinically harmful.

Yet the dualist framework persists, in clinical practice, in health system design, in social policy, and in the self-understanding of patients. Nowhere is this more damaging than in the clinical encounters with patients who experience what medicine has historically called psychosomatic or psychogenic symptoms. These patients are caught in a paradox: they are suffering genuine distress and genuine functional impairment, but the very category of their illness places them in a liminal zone where they are not sick enough to receive medical legitimacy but not well enough to function. The result is often a journey through multiple specialists, years of investigation, accumulating iatrogenic harm, progressive demoralization, and ultimately worse outcomes than they would have had if they had been properly understood and properly treated from the beginning.

Understanding how we got here, and how we are beginning to find a better way, is the task of this opening chapter.

113.2 Ancient Concepts of Mind-Body Unity and Their Disruption

Before Descartes, before the rise of Western biomedicine, most healing traditions in the world did not draw a sharp distinction between mental and physical illness. The ancient Greek concept of hysteria, the Ayurvedic understanding of mental distress as arising from doshic imbalances affecting both mind and body, the Islamic Unani framework, the classical Chinese medical system with its interconnection of emotions and organs: all of these, whatever their other limitations, shared a fundamental commitment to the unity of the person and the inseparability of psychological and physical dimensions of health and illness.

In the pre-colonial Bengal region, as noted in Part One, healing traditions drawn from Ayurveda, Unani medicine, and indigenous folk practices treated the person as a whole, embedded in relationships, cosmological order, and spiritual dimensions. A condition that we would today call somatic symptom disorder or dissociative disorder would have been understood in these frameworks not as a mysterious intrusion of the mental into the physical but as an expression of imbalance in the whole person: an imbalance that required treatment directed at body, mind, spirit, and social relationships simultaneously. The therapeutic implications of this holistic framework were not always positive: the attribution of physical symptoms to spiritual causes could lead to inappropriate treatments and delayed recognition of genuine organic disease. But the framework at least did not generate the stigma of inauthenticity that the dualist framework produces.

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The rupture came with Western modernity. The Cartesian revolution in philosophy, the rise of anatomical medicine (which sought the causes of illness in visible pathology of the body's organs and tissues), and the gradual development of a medical profession that defined its authority in terms of access to this anatomical and, later, biochemical and physiological knowledge: these developments progressively narrowed the definition of legitimate illness to conditions with demonstrable physical pathology. Conditions without such pathology were increasingly regarded as not properly medical: as neurological curiosities, as moral weaknesses, as deliberate simulation, or as the expressions of a peculiarly female tendency toward emotional excess that Jean-Martin Charcot at the Salpêtrière hospital in Paris in the 1880s systematized under the ancient label of hysteria.

113.3 From Hysteria to Conversion: The Psychoanalytic Turn

Hysteria was the diagnostic home of most of what we would today call somatic symptom disorders and dissociative disorders for most of the nineteenth and early twentieth centuries. The term had ancient Greek roots (from hystera, meaning uterus), reflecting the ancient belief that the condition was specific to women and arose from the physical movements of the uterus within the abdominal cavity. By the nineteenth century, this anatomical explanation had been largely abandoned, but the term persisted, carrying with it connotations of femininity, emotionality, and unreliability.

Jean-Martin Charcot (1825-1893) gave hysteria a kind of medical respectability by treating it as a genuine neurological condition and studying its manifestations with the systematic methods of clinical neurology. Charcot described the various physical manifestations of hysteria: the paralyses, the contractures, the blindness, the convulsive attacks, the sensory disturbances. He demonstrated that hysterical symptoms could be induced and removed by hypnosis, and he regarded this susceptibility to hypnotic suggestion as the key mechanism underlying hysteria. His public demonstrations of hysterical patients under hypnosis at the Salpêtrière attracted enormous crowds, and his students included the young Sigmund Freud.

Freud transformed the understanding of hysteria. His early work with Josef Breuer, published in "Studies on Hysteria" in 1895, proposed that hysterical symptoms were the expression of memories of traumatic events that had been repressed from conscious awareness but continued to exert their effects on the body. The concept of conversion, which became central to psychoanalytic theory, proposed that the emotional charge associated with repressed memories was converted into physical symptoms that served a symbolic function: a paralysis of the arm that could not strike an abusive parent, a blindness that could not witness a traumatic scene. This conversion explanation gave hysteria a psychological mechanism and a therapeutic implication: if the repressed memory could be brought into consciousness and the associated affect could be expressed and processed, the symptoms should resolve.

The conversion model was enormously influential and generated a distinctive therapeutic tradition. It also had significant problems. The postulation of a specific repressed memory as the cause of each symptom was often speculative and sometimes frankly invented. The insistence on a symbolic relationship between the symptom and the underlying psychological conflict was frequently forced. The treatment, whatever its successes in individual cases, lacked the

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reproducibility and scientific grounding that modern evidence-based medicine demands. And the strong association of conversion disorders with femininity reinforced problematic gender stereotypes that disserved both female patients and the understanding of the conditions themselves.

113.4 The DSM Revolution and the Concept of Somatoform Disorders

The publication of DSM-III in 1980 replaced the concept of hysteria with the category of somatoform disorders, a term that was intended to be more neutral and less theoretically committed than hysteria or conversion. Somatoform disorders were defined as conditions characterized by physical symptoms that could not be explained by medical investigation and that caused clinically significant distress or impairment. The major categories included somatization disorder (multiple unexplained physical symptoms across multiple bodily systems), hypochondriasis (excessive preoccupation with having a serious illness despite medical reassurance), conversion disorder (loss of voluntary motor or sensory function in response to psychological stress), pain disorder (pain as the primary complaint, associated with psychological factors), body dysmorphic disorder (preoccupation with an imagined or minor defect in physical appearance), and undifferentiated somatoform disorder (for conditions that did not meet the full criteria for any of the above).

The somatoform category, while representing an advance over the unitary concept of hysteria, had its own serious problems. The defining criterion of medically unexplained symptoms was philosophically problematic: it defined the conditions not by what they are but by what they are not, creating a category that was inherently residual and that would shrink as medical knowledge advanced and previously unexplained symptoms received organic explanations. The requirement that psychological factors be judged to be associated with the symptoms proved both clinically unreliable and theoretically unjustified: many patients with conditions that are now recognized as genuinely organic (including fibromyalgia, irritable bowel syndrome, and chronic fatigue syndrome) spent years in the somatoform category because their symptoms lacked clear pathological correlates at the time.

The distinction between somatoform and genuine medical conditions implied that the former were somehow less real or less deserving of medical attention, perpetuating the dualism that the somatoform concept was supposed to overcome. And the category proved of limited clinical utility: the conditions within it were heterogeneous, the boundaries between them were unclear, and they did not map neatly onto the presentations that clinicians actually encountered.

113.5 The ICD-11 and DSM-5 Revisions: A Paradigm Shift

The revisions to psychiatric classification introduced by DSM-5 (2013) and ICD-11 (2019, with ongoing implementation) represent the most significant reconceptualization of these conditions since the introduction of the somatoform category in 1980. Both revisions moved away from the criterion of medically unexplained symptoms and toward a more positive definition based on the psychological features of the person's relationship to their symptoms.

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In DSM-5, the category of somatoform disorders was replaced by somatic symptom and related disorders. The key change was that the defining criterion of medical unexplainability was largely abandoned. Instead, somatic symptom disorder (SSD), the primary new category, is defined by the presence of one or more somatic symptoms that are distressing or result in significant disruption of daily life, together with excessive thoughts, feelings, or behaviors related to those symptoms, as manifested by at least one of: disproportionate and persistent thoughts about the seriousness of the symptoms; persistently high level of anxiety about health or symptoms; or excessive time and energy devoted to the symptoms or health concerns.

This shift was radical. Under DSM-5, a patient with a medically explained condition (such as irritable bowel syndrome, fibromyalgia, or even a genuine cancer) can receive a diagnosis of somatic symptom disorder if their psychological response to their symptoms is excessive and causing impairment. The category no longer depends on the question of whether the symptoms are medically explained but on the psychological features of the person's engagement with their illness. This has been widely regarded as an important advance, because it shifts attention from the unknowable question of whether symptoms are real to the clinically accessible and therapeutically actionable question of how the person relates to their symptoms. However, it has also been criticized for potentially pathologizing understandable responses to genuine physical illness, for creating uncertainty about thresholds, and for making the diagnosis dependent on clinician judgments about what constitutes "excessive" concern.

ICD-11 introduced a different but related change. The somatoform category was replaced by bodily distress disorder (BDD), defined by the presence of bodily symptoms that are distressing to the individual and excessive attention directed toward the symptoms, which may manifest as repeated contact with health care providers. Bodily distress disorder in ICD-11 encompasses what DSM-5 calls somatic symptom disorder and much of what DSM-5 calls illness anxiety disorder. The ICD-11 also introduced a separate category of bodily integrity dysphoria (the intense desire for amputation or paralysis of a limb experienced as not belonging to oneself), and significantly revised the categories of dissociative and functional neurological disorders.

For Bangladesh, the transition from ICD-10 to ICD-11 carries important practical implications. The old concept of somatoform disorder, which remains the operative category in Bangladesh's current health information system, will gradually be replaced by the new categories of bodily distress disorder and somatic symptom disorder. Clinicians trained on ICD-10 will need orientation to these new frameworks, and the development of culturally adapted assessment instruments, as exemplified by the 2025 PLOS One study that validated the Somatic Symptom Disorder-B Criteria Scale in Bangladesh, represents an important step in this direction.

CHAPTER ONE HUNDRED AND FOURTEEN: SOMATIC SYMPTOM AND RELATED DISORDERS: CLINICAL SCIENCE, CLASSIFICATION, AND NOSOLOGY

114.1 The Landscape of Somatic Symptom and Related Disorders

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DSM-5-TR and ICD-11 delineate a family of related conditions that share the common feature of prominent somatic symptoms associated with significant distress and disability. These conditions are among the most common encountered in general medical and primary care settings, and they are responsible for an enormous proportion of health care utilization globally. Understanding their classification, their overlapping features, and their distinctions from one another is a foundational clinical skill.

The major categories within this family, as defined by DSM-5-TR, are as follows.

Somatic symptom disorder is the primary diagnosis for individuals who experience one or more somatic symptoms that are distressing or result in significant disruption of daily life, together with the cognitive and emotional features described above: excessive concern about the severity of symptoms, persistently high health-related anxiety, or excessive time and energy devoted to health concerns. The somatic symptoms may be with predominantly somatic features or with predominant pain. They may be persistent (typically lasting more than six months) or may have varying course. The specifier of severity (mild, moderate, or severe) is based on the number of the additional psychological criteria that are present.

Illness anxiety disorder applies to individuals who have high anxiety about having or developing a serious illness, without prominent somatic symptoms (or with only mild somatic symptoms). These individuals engage in excessive health-related behaviors (such as repeated checking of bodily symptoms or seeking medical reassurance) or maladaptive avoidance (avoiding medical appointments out of fear of receiving bad news). They may or may not have been medically evaluated, and their anxiety persists despite medical reassurance. Illness anxiety disorder captures much of what was previously called hypochondriasis, though the DSM-5 deliberately avoided the term hypochondriasis because of its pejorative connotations.

Functional neurological symptom disorder (conversion disorder) is retained in DSM-5-TR as a distinct category, though its name has changed to reflect the contemporary understanding of these conditions as functional rather than primarily psychogenic. It is characterized by one or more symptoms of altered voluntary motor or sensory function, with clinical findings that are incompatible with recognized neurological or medical conditions. The category includes functional weakness or paralysis, functional non-epileptic seizures (FNES, also called psychogenic non-epileptic seizures or PNES), functional tremor, functional dystonia, functional sensory loss, and functional speech and swallowing disorders. The specification of whether a psychological stressor is associated with the onset of symptoms is noted but is no longer required for the diagnosis, reflecting the recognition that many patients cannot identify a specific psychological precipitant.

Psychological factors affecting other medical conditions is a category for situations where psychological or behavioral factors adversely affect a medical condition. This is a broad and clinically important category that encompasses the psychological dimensions of physical illness management, including non-adherence to treatment, unhealthy behaviors that worsen physical conditions, and excessive psychological responses to physical illness that go beyond what would be considered an adjustment disorder.

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Factitious disorder involves the falsification of physical or psychological symptoms, or the induction of injury or disease, in oneself (factitious disorder imposed on self) or in another (factitious disorder imposed on another, previously called Munchausen syndrome by proxy). Unlike malingering, which is feigning illness for obvious external gain, factitious disorder involves a presumed psychological motivation related to the sick role.

Other specified somatic symptom and related disorder and unspecified somatic symptom and related disorder are residual categories for presentations that do not meet full criteria for any of the above.

114.2 Epidemiology: How Common Are These Conditions?

Somatic symptom and related disorders are extremely common in clinical settings worldwide, though accurate prevalence estimates are complicated by the nosological changes described above and by the methodological challenges of studying conditions defined largely by psychological response patterns.

The prevalence of somatic symptom disorder (or its ICD-11 equivalent, bodily distress disorder) in primary care settings in high-income countries is estimated at 5 to 10 percent. In secondary and tertiary medical settings, the prevalence is higher: studies consistently find that 10 to 30 percent of outpatients in general medical clinics meet criteria for somatic symptom disorder or its equivalents. The economic costs of these conditions are enormous: people with somatic symptom disorders utilize health care at two to three times the rate of the general population, frequently undergo expensive and sometimes harmful investigations that do not change management, and often accumulate iatrogenic illness through unnecessary procedures.

Illness anxiety disorder is estimated to have a prevalence of 1.3 to 10 percent in primary care settings. Functional neurological disorder is estimated to affect 50 out of every 100,000 people annually, making it the second most common cause of neurological disability after headache in neurology clinics. The Global Burden of Disease Study has estimated that somatic symptom and related disorders collectively account for a substantial proportion of years lived with disability, though their contribution may be underestimated because of diagnostic and coding challenges.

In Bangladesh, the National Mental Health Survey 2019 reported a prevalence of somatic symptom and related disorders of 2.3 percent in the adult population using ICD-10 criteria. However, this figure almost certainly underestimates the true burden significantly. A more recent analysis of the survey data published in 2024 applied stricter and more clinically sensitive criteria and found rates considerably higher. The underestimation reflects several factors specific to the Bangladeshi context: the use of assessment instruments not calibrated to Bangladeshi cultural idioms of distress, the tendency to present somatic complaints to general medical rather than psychiatric services (meaning they would not be captured in a mental health survey), and the extraordinary prevalence of what the anthropological literature calls somatic idioms of distress in Bangladesh, where psychological suffering is routinely communicated through physical symptoms in ways that are culturally appropriate and do not necessarily represent psychopathology.

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When studies specifically designed to detect somatic and functional disorders in primary care settings in Bangladesh are examined, the rates are striking. Studies from the 1990s and 2000s found that between 25 and 45 percent of patients presenting to primary care settings in Bangladesh had medically unexplained somatic symptoms as their primary complaint. Studies in general medical outpatient settings found rates of 35 to 50 percent for presentations that could not be accounted for by identified pathology. These figures are not unique to Bangladesh: they reflect a global pattern in which somatic symptom presentations constitute the largest single category of morbidity in primary care settings in both high-income and low- and middle-income countries.

114.3 The Clinical Presentations: Recognizing Somatic Symptom and Related Disorders in Bangladesh

The clinical presentations of somatic symptom and related disorders in Bangladesh have characteristic features that distinguish them from the classic presentations described in Western textbook literature, while also sharing important phenomenological features across cultures.

The most common presenting complaints in Bangladeshi primary care settings include headache (of multiple types, often described as a sensation of pressure, heaviness, or burning), chest pain or tightness (often associated with fear of heart disease), palpitations, difficulty breathing (sometimes described as inability to take a satisfying breath), abdominal pain and bloating, pain in multiple joints and muscles, weakness and fatigue, and a sensation of heat or burning within the body. The last of these, the experience of internal burning or heat that cannot be explained by any physical pathology, is particularly common and appears to represent a culturally specific somatic idiom for psychological distress that may not map neatly onto any of the DSM or ICD categories.

Dizziness, visual disturbances, a feeling of heaviness in the limbs, sleep disturbance, and low appetite are also extremely common accompanying features. Many patients with somatic symptom disorder in Bangladesh present with a pattern of multiple, shifting somatic complaints that change over time and that defy the kind of clear clinical picture that would fit a single diagnostic category. This pattern of polysymptomatic, shifting somatic complaints is particularly characteristic of what ICD-10 called somatization disorder and what DSM-5 calls somatic symptom disorder with predominantly somatic features.

The cognitive and emotional features that define somatic symptom disorder in DSM-5 are present but often expressed differently from what is described in Western literature. Rather than articulating excessive worry about the seriousness of symptoms in psychological terms, Bangladeshi patients more commonly express concern about physical causes: they want to know what disease they have, they worry that the investigations have missed something serious, and they may repeatedly seek medical opinions in search of a diagnosis that feels adequate to their experience. This is not simply illness anxiety disorder as defined in DSM-5, though it shares features with that condition; it reflects a culturally appropriate insistence on physical framing of what is experienced as physical suffering.

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The challenge for the clinician in Bangladesh is therefore not primarily one of recognizing unusual presentations but of developing sufficient clinical sophistication to identify when somatic presentations reflect underlying psychological distress, without dismissing the patient's physical concerns, and to engage with the patient in a way that opens up a therapeutic conversation about the whole person rather than simply about the physical symptoms. This requires considerable skill, patience, and cultural competency.

114.4 Dhat Syndrome and Other Culture-Specific Somatic Presentations in Bangladesh

Dhat syndrome (also spelled dhatu syndrome) deserves special attention as the most extensively studied culture-specific somatic presentation in South Asia, including Bangladesh. The term dhat comes from the Sanskrit word dhatu, referring to the seven primary bodily constituents recognized in Ayurvedic medicine, of which semen (shukra) is considered the most vital and rarefied. Dhat syndrome refers to a cluster of symptoms, typically including marked fatigue, weakness, loss of appetite, weight loss, sadness, anxiety, cognitive difficulties, and sexual dysfunction (including erectile dysfunction and premature ejaculation), attributed by the patient to the loss of semen through masturbation, nocturnal emissions, or its perceived loss in the urine (the urine is seen as cloudy or white).

Dhat syndrome reflects a culturally specific belief system about semen as a vital fluid that, once lost, cannot be replaced without great effort, and whose loss produces systemic weakness and debilitation. This belief system has both Ayurvedic antecedents (in which semen is considered the final and most refined product of the digestive process, requiring forty drops of blood to produce one drop of semen) and popular cultural expressions. It is not uncommon in Bangladesh, particularly among young men from rural and semi-urban backgrounds, and it presents a distinctive clinical challenge.

From a clinical perspective, dhat syndrome almost always co-occurs with genuine anxiety and/or depressive disorders. The distress associated with the belief in excessive semen loss, and the shame associated with masturbation in a social context where sexual topics are heavily stigmatized, generates substantial psychological suffering that meets clinical criteria for anxiety or depression. The sexual dysfunction that is often reported may have both psychological and physiological dimensions. The appropriate clinical response is to address both the cultural framework and the underlying psychiatric conditions: to provide culturally sensitive psychoeducation that challenges excessive beliefs about semen loss without dismissing the patient's concerns, and to treat the co-occurring depression or anxiety with appropriate pharmacological and psychotherapeutic approaches.

ICD-11 has explicitly recognized dhat syndrome as a culture-specific disorder, categorized under "other specified disorders specifically associated with stress." This recognition is clinically important: it validates the experience of patients with this presentation and provides a framework for its management that does not require either accepting the patient's somatic attribution at face value or dismissing it as mere superstition.

Beyond dhat syndrome, several other culture-specific somatic presentations deserve mention in the Bangladeshi context. Sinking heart, or ghabharahat (from the Urdu/Bengali term for anxiety

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and agitation), refers to a distressing sensation of pressure, sinking, or emptiness in the chest region, accompanied by palpitations, heat, and a sense of mental distress. Unlike standard descriptions of panic disorder, ghabharahat is understood within a cultural framework that links the heart metaphorically to emotional experience, so that grief, worry, and distress are felt literally as conditions of the heart. The term is used across different South Asian cultural communities with somewhat different specific features.

The sensation of gas or air moving within the body, particularly in the abdomen, and the attribution of diverse somatic symptoms to this movement, is another extremely common idiom of distress in Bangladesh. Patients may describe their headaches, weakness, chest tightness, and joint pain as caused by gas rising from the stomach to various parts of the body. This explanatory model, which has roots in both Ayurvedic and Unani medical traditions as well as popular folk belief, guides help-seeking behavior (patients may seek remedies from hakims or village doctors who provide gas-relieving treatments) and shapes the therapeutic encounter.

CHAPTER ONE HUNDRED AND FIFTEEN: NEUROBIOLOGY OF SOMATIC SYMPTOM AND FUNCTIONAL DISORDERS: FROM THE PERIPHERY TO THE PREDICTIVE BRAIN

115.1 Rethinking the Neuroscience: The Predictive Processing Framework

The neurobiology of somatic symptom disorders has been transformed in the past decade by the emergence of predictive processing frameworks as a compelling account of how the brain generates both normal perception and abnormal somatic experiences. Understanding this framework is essential for making sense of why somatic symptom disorders occur, why they are so resistant to reassurance, and why they respond to particular kinds of therapeutic intervention.

The predictive processing framework, developed in its contemporary form by Karl Friston and others building on earlier work by Hermann von Helmholtz and more recently by Andy Clark, proposes that the brain does not passively receive sensory information and then process it into experience. Rather, the brain constantly generates predictions about what sensory input it is about to receive, based on its prior experiences and its model of the world. These predictions, called priors, are compared with the actual incoming sensory signals, and the discrepancy (called prediction error) is the primary signal that updates the brain's model of the world. In normal perception, prediction error is minimized by a combination of updating the model and by actively sampling the environment to obtain the information that would confirm or disconfirm the model.

In the context of somatic experience, this framework makes the startling but well-supported prediction that much of what we experience as bodily sensation is, in a meaningful sense, a construction of the brain rather than a direct readout of peripheral signals. The brain generates predictions about the state of the body based on prior experience, contextual cues, attentional focus, and expectations derived from learning. When the predicted state of the body diverges from the actual signals arising from the body's tissues, the experience of that divergence is

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registered as a bodily sensation. The intensity of the registered sensation is influenced not only by the actual intensity of the peripheral signal but by the brain's prior expectation and by the level of attention directed to the relevant body region.

This framework provides a powerful account of how somatic symptoms can arise and persist in the absence of peripheral tissue pathology. If the brain's prior expectation of bodily harm or dysfunction is sufficiently strong, and if this expectation is associated with heightened attention to the relevant body region and with low uncertainty (high precision, in the language of Bayesian inference), the brain will generate somatic sensations that are experienced as entirely real but that do not correspond to peripheral tissue pathology. The symptoms are real: they are generated by the brain's own predictive machinery and are experienced as genuine bodily sensations. They are not simulated, not malingered, not imaginary. They arise from a brain that has, for reasons that may be entirely understandable given the person's history, learned to generate certain somatic predictions with high confidence.

The implications of this framework for the understanding of somatic symptom disorder are profound. It explains why patients with somatic symptom disorder genuinely experience their symptoms as severe and disabling: the symptoms are generated by the brain's most fundamental perceptual machinery. It explains why reassurance is so ineffective: simply telling the patient that there is no physical cause for their symptoms does not change the brain's prior expectation, which is maintained by a complex web of learned associations, attentional biases, and social reinforcements. It explains why attention and contextual factors have such powerful effects on somatic symptoms: directing attention to a body region increases the precision of predictions about that region and thereby amplifies the generated somatic signal. And it points toward therapeutic approaches, specifically those that address the brain's predictive model through graduated exposure, attentional retraining, and the explicit construction of alternative predictions, rather than those that focus simply on reassurance or on identifying psychological causes.

115.2 The Role of Interoception: The Brain's Perception of the Body's Interior

Interoception, the brain's processing of signals arising from the internal organs and tissues of the body, is increasingly recognized as central to the neurobiology of somatic symptom disorders. The brain receives a continuous stream of signals from the body's interior through multiple pathways, including the vagus nerve (which transmits signals from the heart, lungs, and gastrointestinal tract), the spinal interoceptive pathways, and the trigeminal nerve. These signals are processed in a hierarchical system that includes the insula, the anterior cingulate cortex, the somatosensory cortices, and the brainstem.

Research in the past decade has established that the interoceptive system in people with somatic symptom disorders shows characteristic alterations. Neuroimaging studies have found altered activity in the insula (particularly the anterior insula, which is associated with the subjective experience of bodily sensation) and altered connectivity between the insula and prefrontal regions (which are associated with the cognitive evaluation and regulation of bodily experience). These alterations are consistent with the predictive processing account: the interoceptive system

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appears to generate amplified or distorted bodily signals, and the regulatory systems that normally calibrate and contextualize these signals appear to be less effective.

The concept of interoceptive accuracy, which refers to the ability to accurately detect one's own bodily signals (such as heartbeat), shows complex and sometimes counterintuitive patterns in somatic symptom disorders. Some studies find high interoceptive sensitivity (greater than normal awareness of bodily signals) combined with high interoceptive sensibility (greater than normal preoccupation with bodily experience). This combination is associated with the tendency to notice and attend to bodily signals that others might ignore, to interpret them as threatening, and to generate somatic experiences that are both vivid and distressing.

The concept of alexithymia, defined as difficulty in identifying and describing one's own emotions, is highly relevant to the neurobiology of somatic symptom disorders. Research consistently shows elevated rates of alexithymia in people with somatic symptom disorders and bodily distress disorder. The theoretical account of this association proposes that people with alexithymia are unable to represent emotional states as psychological experiences, and instead experience them as bodily sensations. In the predictive processing framework, emotion can be understood as the brain's prediction about the functional significance of bodily arousal: when this prediction process fails or is unavailable, the bodily arousal itself becomes the primary experience, generating somatic symptoms without the psychological emotional context that would allow them to be processed and regulated through cognitive-emotional channels.

115.3 Stress Physiology, Allostatic Load, and Somatic Symptom Disorders

The relationship between psychological stress and somatic symptom disorders is bidirectional and complex, mediated by multiple physiological pathways. Chronic stress activates the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system, producing sustained elevations of cortisol, adrenaline, and other stress hormones that have wide-ranging effects on bodily systems. These effects include increased cardiovascular activity, altered gastrointestinal motility, heightened pain sensitivity (through the effects of stress hormones on nociceptive thresholds and descending pain modulation), immune system activation including increased inflammatory cytokines, and disruption of sleep architecture.

The concept of central sensitization, which has been developed primarily in the context of chronic pain research, describes a state in which the nervous system becomes persistently sensitized to nociceptive input, generating pain in response to stimuli that would not normally be painful and amplifying the pain response to stimuli that would normally produce only mild discomfort. Central sensitization involves both peripheral changes (in primary nociceptors) and central changes (in spinal cord and brainstem pain processing pathways), and it is powerfully influenced by psychological state, including anxiety, depression, and catastrophizing beliefs about pain. Central sensitization is thought to be a core mechanism underlying fibromyalgia, irritable bowel syndrome, chronic widespread pain, and many other conditions that overlap significantly with somatic symptom disorder.

The concept of allostatic load, introduced in Chapter Five, is directly relevant here. Chronic exposure to adverse social conditions, psychological stress, and repeated trauma produces

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cumulative biological wear and tear across multiple regulatory systems, including the HPA axis, the autonomic nervous system, the immune system, and the cardiovascular system. High allostatic load is associated with a wide range of adverse health outcomes, including the generation of somatic symptoms that reflect the biological consequences of chronic stress. In Bangladesh, where many people are exposed to chronic poverty, food insecurity, intimate partner violence, labor migration stress, and the repeated trauma of natural disasters, allostatic load may be very high in substantial population subgroups, contributing to the elevated prevalence of somatic symptom presentations.

115.4 The Neurobiology of Functional Neurological Disorder: The Contemporary Understanding

Functional neurological disorder (FND) has undergone the most dramatic scientific re-evaluation of any condition within the somatic symptom family in the past decade, driven largely by advances in functional neuroimaging and by the development of a more sophisticated theoretical framework that integrates neural, psychological, and social dimensions.

The old conversion disorder model proposed a simple mechanism: a repressed psychological conflict is converted into a neurological symptom through a process of psychological defense. This model made FND sound like a relatively straightforward condition requiring a relatively straightforward treatment, specifically uncovering and resolving the underlying conflict. The clinical reality was often very different, and many patients with FND received inadequate or harmful care under this model.

The contemporary understanding of FND, articulated in influential papers by Jon Stone, Mark Hallett, and their collaborators, and summarized in a landmark 2024 World Psychiatry paper, proposes a more complex and nuanced mechanism that is at once more neurological and more psychologically sophisticated. In this framework, FND arises from dysfunction in the neural systems that generate and regulate motor and sensory functions, specifically dysfunction in the systems that normally tag motor acts as self-generated (the sense of agency) and that integrate sensory expectations with sensory signals (sensorimotor integration).

Neuroimaging studies of patients with functional motor disorders (motor weakness, tremor, dystonia) have consistently found abnormalities in the activity of and connectivity between the amygdala, the basal ganglia, the supplementary motor area, the insula, and the prefrontal cortex. These findings suggest that emotional and interoceptive processing systems are exerting abnormal influence on motor and sensory processing in ways that disrupt the normal generation of voluntary movement and the normal perception of sensory input. The experience of symptoms in FND is not the result of conscious voluntary suppression of normal function but of unconscious disruption of the neural systems that generate normal function.

The role of attention is particularly important in the contemporary understanding of FND. Studies using transcranial magnetic stimulation and movement analysis have shown that patients with functional motor disorders have paradoxically enhanced corticospinal excitability to the affected limb when their attention is directed away from it, and suppressed excitability when they attend to it. This suggests that the mechanism of FND involves excessive top-down suppression

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of motor command generated by attentional focus, rather than primary motor pathway pathology.

The concept of an active inference mechanism has been applied to FND by theorists working within the predictive processing framework. In this account, functional symptoms arise when the brain generates high-confidence predictions of motor or sensory dysfunction that override normal motor commands or sensory processing. The high confidence of these predictions may be related to prior learning (previous experiences of weakness or sensory loss, perhaps during illness or injury), to emotional arousal that amplifies the precision of threatening predictions, or to attentional focus that increases the weighting given to predicted dysfunction relative to actual motor or sensory input.

The clinical implication of this neuroscientific account is that FND is best understood not as a purely psychological condition that requires purely psychological treatment, nor as a purely neurological condition that requires purely neurological treatment, but as a condition of functional brain organization that requires interventions directed at the brain's predictive and regulatory systems. Physical therapy that incorporates attention redirection techniques, behavioral approaches that gradually expose patients to movement patterns associated with their symptoms, and psychological approaches that address the emotional and cognitive factors that maintain the brain's functional organization are all relevant therapeutic modalities.

CHAPTER ONE HUNDRED AND SIXTEEN: SOMATIC SYMPTOM DISORDERS IN BANGLADESH: EPIDEMIOLOGY, CLINICAL REALITIES, AND SYSTEMIC CHALLENGES

116.1 The Epidemiological Landscape: What We Know and What We Do Not

The epidemiology of somatic symptom disorders in Bangladesh is imperfectly understood but clearly of very large scale. As noted above, the 2019 National Mental Health Survey found a prevalence of somatic symptom and related disorders of 2.3 percent using ICD-10 criteria, a figure that is widely regarded as a substantial underestimate. The 2025 PLOS One validation study of the Somatic Symptom Disorder-B Criteria Scale (SSD-12) in Bangladesh, conducted with both clinical and community samples, established the excellent psychometric properties of this instrument in the Bangladeshi context, with a Cronbach's alpha of 0.94 and strong criterion-related validity. This validation work is an important step toward developing the evidence base needed to accurately quantify the burden of somatic symptom disorder in Bangladesh.

Studies in primary care and general medical settings in Bangladesh consistently find that between 30 and 50 percent of patients present with somatic complaints that do not have a clear organic etiology. A 2023 study from several district hospitals in Bangladesh found that 42 percent of outpatients in internal medicine clinics met criteria for a somatic symptom or related disorder when assessed with appropriate instruments. Women were more likely to have somatic symptom disorder than men (54 percent versus 31 percent in that study), and rural residents had

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higher rates than urban residents, possibly reflecting the greater burden of psychosocial adversity in rural settings.

The demographic profile of somatic symptom disorder in Bangladesh shows that women of reproductive age (15 to 45 years), elderly persons of both sexes, and people with low levels of education and low socioeconomic status are disproportionately affected. The association with female gender and low socioeconomic status is consistent with the theoretical account of somatic symptom disorders as shaped by allostatic load and by the social conditions that determine the availability of psychological language and psychological support.

116.2 Social Determinants: Poverty, Violence, and the Somatic Expression of Suffering

The social determinants of somatic symptom disorders in Bangladesh deserve sustained attention because they are fundamental to understanding why the prevalence is so high and how it might be reduced. Poverty is the most pervasive determinant: the chronic stress of material deprivation, food insecurity, housing precarity, and economic vulnerability generates the physiological conditions (high allostatic load, central sensitization, HPA axis dysregulation) in which somatic symptom disorders flourish. But poverty does not operate in isolation; it intersects with gender, educational level, social network characteristics, and exposure to specific forms of adversity.

Intimate partner violence (IPV) is a particularly important driver of somatic symptom disorders in Bangladeshi women. The relationship between IPV and somatic symptoms is well established in research across multiple settings: women exposed to IPV have substantially elevated rates of chronic pain, gastrointestinal symptoms, headache, fatigue, and other somatic presentations compared to women not exposed to IPV. The mechanisms are multiple: direct physical injury and its sequelae, chronic hyperactivation of the stress response, the psychological effects of trauma and chronic threat, and the absence of safe contexts in which emotional suffering can be expressed and processed. In Bangladesh, where IPV affects an estimated 55 to 70 percent of married women, the contribution of IPV to the burden of somatic symptom disorders is likely enormous.

Labor migration is another important and underappreciated determinant. Millions of Bangladeshi workers, predominantly men, migrate to Middle Eastern countries, Southeast Asia, and elsewhere for employment. This migration is associated with substantial psychological stress: separation from family, exposure to harsh working conditions, economic uncertainty, and the experience of being a marginalized foreign worker in countries that may be hostile or exploitative. The wives and families of migrant workers face their own challenges: economic management in the husband's absence, social isolation, and the psychological burden of prolonged separation. Studies of women whose husbands have migrated find elevated rates of depression, anxiety, and somatic symptom presentations.

Climate-related adversity is an increasingly important determinant. In coastal areas and flood-prone regions of Bangladesh, people are exposed to repeated cycles of flood damage, crop loss, livelihood disruption, and displacement. The chronic stress of living in a climate-vulnerable environment, combined with the acute stress of specific disaster events, contributes to both the

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development and the perpetuation of somatic symptom disorders. The experience of bodily vulnerability and threat that characterizes life in climate-exposed communities may prime the interoceptive system toward amplified somatic perception in ways that make somatic symptom disorder more likely.

116.3 The Clinical Encounter: Challenges and Opportunities

The clinical encounter with a patient with somatic symptom disorder in Bangladesh presents challenges that are simultaneously clinical, communicative, and cultural. The patient typically presents with physical complaints, not psychological ones, and often has a strong investment in a physical explanation for their suffering. They may have already received conflicting medical opinions, undergone multiple investigations, and been treated with various physical remedies without lasting benefit. They may be fearful that they have a serious unrecognized disease, or they may be frustrated by the repeated failure of medicine to provide them with a satisfactory explanation or effective treatment.

The first challenge for the clinician is to provide a consultation that validates the patient's experience of suffering while gently opening up a broader conversation about the factors that might be contributing to their symptoms. This requires avoiding both the error of premature reassurance (telling the patient that their symptoms are "all in the mind" or "nothing to worry about") and the error of excessive investigation (ordering further tests in response to the patient's concerns without clinical justification, thereby reinforcing the belief that there must be an organic cause to be found). Both of these common clinical responses are counterproductive: premature reassurance typically fails and damages the therapeutic relationship, while excessive investigation perpetuates the somatic focus, increases costs, and risks iatrogenic harm.

Effective communication with patients with somatic symptom disorder in Bangladesh requires cultural competency in several specific dimensions. The clinician needs to understand and respect the patient's explanatory model, which may attribute symptoms to organic causes, to spiritual forces, to humoral imbalances, or to accumulated gas. Rather than simply correcting this model, the clinician needs to engage with it, to explore its implications, and to gradually introduce alternative ways of understanding the symptoms that can be accepted within the patient's cultural framework. This might involve framing the mind-body relationship in terms that resonate with Bangladeshi cultural understandings: the connection between emotional states and the heart, the effects of stress (tension) on the body, the role of worry in producing physical symptoms.

The explanation to the patient of a somatic symptom disorder diagnosis should be honest, clear, non-stigmatizing, and hopeful. It should communicate that the symptoms are real and not imagined, that they arise from a genuine condition of the nervous system in which the brain generates and amplifies somatic signals, and that this condition is treatable. It should not communicate that the symptoms are psychological rather than physical (a framing that many patients find invalidating and stigmatizing), or that the clinician disbelieves the patient, or that there is nothing to be done.

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A 2024 study published in the Asian Journal of Psychiatry examined clinician attitudes toward patients with medically unexplained symptoms in Bangladesh and found that a substantial proportion of clinicians held negative attitudes: they were more likely to regard these patients as time-wasting, difficult, and manipulative compared to patients with clearly organic conditions. These attitudes, which reflect both the inadequate training of Bangladeshi clinicians in somatic psychiatry and the broader cultural devaluation of psychological suffering compared to physical suffering, are a significant barrier to effective care and require targeted educational intervention.

116.4 Investigation of Somatic Symptom Disorders: What to Do and What to Avoid

The investigation of patients presenting with somatic symptoms in Bangladesh requires a careful balance between appropriate medical evaluation and the avoidance of excessive or unnecessary testing. The goal is to ensure that organic conditions are not missed while avoiding the harms of over-investigation.

A thorough history and physical examination are the cornerstones of evaluation. The history should include not only a detailed account of the somatic symptoms (onset, character, severity, temporal pattern, aggravating and relieving factors, associated features) but also a systematic inquiry into the psychological and social context: recent life events, interpersonal relationships, occupational situation, financial stress, history of trauma and adversity, and the patient's own understanding of the cause of their symptoms. The physical examination should be conducted with full attention to the patient's concern, validating their experience of illness rather than perfunctorily ruling out physical pathology.

Initial investigations should be limited to those that are clinically indicated by the specific symptom presentation. For most patients with multiple somatic symptoms, a basic panel of investigations (full blood count, erythrocyte sedimentation rate or C-reactive protein, liver and renal function tests, thyroid function tests, and urinalysis) is sufficient to screen for the most common organic conditions. Additional investigations should be driven by specific clinical features that suggest an organic diagnosis, not by the patient's anxiety or the clinician's uncertainty.

Repeated investigations in the absence of new clinical findings are strongly contraindicated in somatic symptom disorder. The evidence consistently shows that repeated negative investigations do not reassure patients with illness anxiety or somatic symptom disorder; if anything, they may reinforce the belief that something has been missed and increase the motivation for further testing. A clinical decision to limit investigations should be explained to the patient clearly and compassionately, with an honest account of the risks and costs of further testing and an explanation of why the available evidence does not support additional investigation.

Assessment instruments that are validated for use in Bangladesh should be incorporated into clinical assessment. The SSD-12, validated in the Bangladeshi population in the 2025 PLOS One study by Habib and Mozumder, provides a reliable and valid measure of the B criteria for somatic symptom disorder (the psychological features of excessive thoughts, feelings, and behaviors related to symptoms) and can be used both for screening and for monitoring treatment

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response. The PHQ-15, which assesses the somatic symptom severity dimension, and the PHQ-9 and GAD-7, which assess depression and anxiety respectively, should be administered routinely, since somatic symptom disorder shows very high rates of comorbidity with depression and anxiety in Bangladesh as elsewhere.

CHAPTER ONE HUNDRED AND SEVENTEEN: BODILY DISTRESS DISORDER: THE ICD-11 REVOLUTION AND ITS CLINICAL IMPLICATIONS FOR BANGLADESH

117.1 Understanding Bodily Distress Disorder

The introduction of bodily distress disorder (BDD) in ICD-11 represents the most significant reconceptualization of somatic conditions in international classification since DSM-III. It is worth dwelling on this change in some detail because it will increasingly shape clinical practice, research, and health statistics in Bangladesh as ICD-11 adoption progresses.

Bodily distress disorder is defined by the presence of bodily symptoms that are distressing to the individual, together with excessive attention directed toward the symptoms, which may manifest as repeated contact with health care providers. The symptoms must not be adequately explained by another physical health condition or, when they co-occur with a physical health condition, the symptoms and associated excessive attention must be clearly excessive relative to what would be expected given the physical condition. The symptoms and associated distress and impairment must have been present for at least several months.

BDD differs from the old somatoform category in several important respects. First, it explicitly acknowledges that bodily distress disorder can co-occur with physical health conditions, rather than requiring that the symptoms be medically unexplained. Second, it focuses on the psychological response to symptoms (the excessive attention, the distress, the health-seeking behavior) rather than on the absence of organic pathology. Third, it consolidates what ICD-10 divided into multiple categories (somatization disorder, undifferentiated somatoform disorder, hypochondriacal disorder, somatoform autonomic dysfunction, and persistent somatoform pain disorder) into a single category with severity specifiers, making clinical application more straightforward.

For Bangladesh, the clinical implications of this shift are significant in at least three ways. First, it removes the problematic criterion of medical unexplainability, which was a source of confusion and stigma and which did not translate well across cultural contexts where the boundary between organic and functional was differently drawn. Second, it opens up the possibility of diagnosing and treating bodily distress disorder in patients with comorbid physical health conditions, recognizing that the psychological features of excessive attention and distress can complicate and worsen physical illness outcomes. Third, it provides a more coherent framework for communication with patients: the focus on distress and excessive preoccupation is easier to discuss than the stigmatizing concept of medically unexplained symptoms.

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The ICD-11 also includes the category of health anxiety disorder, which corresponds roughly to DSM-5's illness anxiety disorder, and which applies to individuals who experience intense preoccupation with having or developing a serious illness, despite medical reassurance and in the absence of prominent somatic symptoms (or with only mild somatic symptoms). Health anxiety disorder in ICD-11 is coded in the anxiety and fear-related disorders chapter rather than with bodily distress disorder, reflecting a conceptual decision that health anxiety is primarily an anxiety condition rather than primarily a somatic symptom condition.

117.2 The International Debate Around Classification: Perspectives Relevant to Bangladesh

The development of new categories for somatic conditions in both DSM-5 and ICD-11 has been accompanied by significant controversy within the international scientific and clinical community, and these controversies have particular resonance for Bangladesh.

One major controversy concerns the risk of over-medicalization that the new categories may introduce. Critics of DSM-5's somatic symptom disorder argue that the criterion of excessive concern about somatic symptoms is too subjective and could lead to the pathologizing of entirely understandable responses to genuine physical illness. A cancer patient who is understandably frightened by their symptoms, or a patient with fibromyalgia who visits multiple physicians in search of effective treatment, could potentially be diagnosed with somatic symptom disorder under DSM-5 criteria. This concern is particularly acute in low-resource settings like Bangladesh, where limited access to health care may drive health-seeking behavior that appears "excessive" by Western standards but is in fact a rational response to the difficulty of obtaining adequate medical attention.

A second controversy concerns the cultural validity of the new categories. The criteria for somatic symptom disorder and bodily distress disorder were developed primarily in Western clinical settings, and their applicability to diverse cultural contexts has not been fully established. In Bangladesh, where somatic expression of psychological distress is culturally normative rather than pathological, the thresholds for "excessive" symptom focus may need to be calibrated differently. The ongoing development of culturally adapted assessment instruments for Bangladesh, exemplified by the 2025 SSD-12 validation study, is an important step toward addressing this concern.

A third controversy concerns the relationship between these new categories and the patient experience. Consumer and patient advocacy organizations in several countries have expressed concern about the stigmatizing implications of being told that one's physical symptoms are a matter of excessive concern, rather than having a clear medical diagnosis. In Bangladesh, where stigma around mental health is severe, the framing of somatic symptoms as a psychological condition could deter help-seeking or lead to inadequate medical attention for genuine physical comorbidities. Clinicians in Bangladesh need to be alert to this risk and to frame the diagnosis in ways that validate the patient's experience and motivate engagement with treatment.

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CHAPTER ONE HUNDRED AND EIGHTEEN: FUNCTIONAL NEUROLOGICAL DISORDER IN BANGLADESH: FROM HYSTERIA TO CONTEMPORARY NEUROSCIENCE

118.1 The Historical Trajectory: Hysteria and Its Descendants in Bengal

The condition that has been called hysteria, conversion disorder, and most recently functional neurological disorder has a long and complicated history in Bengal and Bangladesh. From a historical perspective, descriptions of what we would today recognize as functional neurological disorder appear in Bengali medical texts and in the records of colonial medical practice from the nineteenth century onward. The colonial psychiatrists and neurologists who practiced in Bengal documented cases of hysterical paralysis, convulsions, blindness, and mutism, and they interpreted these conditions through the theoretical frameworks available to them, largely the Charcot-Freud conversion model and its various derivatives.

The colonial medical literature on hysteria in Bengal is worth examining critically, because it reveals the ways in which theories of mental illness can be shaped by social power relations. Colonial doctors frequently attributed hysteria in Bengali women to the effects of purdah (female seclusion), early marriage, and sexual repression, in ways that pathologized cultural practices without engaging adequately with the social conditions that generated distress. The attribution of hysteria to feminine emotional weakness reflected both Western gender stereotypes and the broader colonial tendency to feminize colonized populations. These historical framings, while now recognized as problematic, left their traces in how functional neurological disorder has been understood and treated in Bangladesh, and in the persistent stigma that surrounds these conditions.

118.2 Epidemiology of Functional Neurological Disorder in Bangladesh

Functional neurological disorder (FND) is common in Bangladesh, though its precise prevalence has not been established through population-based studies. Clinic-based studies from neurological and psychiatric outpatient settings in Dhaka suggest that FND may account for 10 to 15 percent of all new neurological outpatient referrals, comparable to rates reported from high-income countries and consistent with the global epidemiology of the condition.

The most common presentations of FND in Bangladesh are functional seizures (referred to variously as psychogenic non-epileptic seizures, non-epileptic attack disorder, or FNES), functional weakness or paralysis, and functional movement disorders including tremor. These presentations have both similarities and differences compared to FND presentations in high-income countries.

Functional seizures in Bangladesh have a characteristic epidemiological profile: they predominantly affect women, with a peak in the reproductive years, and they have higher rates in rural and semi-urban settings compared to urban ones. The clinical features of functional seizures in Bangladesh often include prominent motor activity (thrashing, arching of the back, rolling of the head), prolonged duration, preservation of consciousness (though the patient may appear unresponsive), rapid recovery after the episode, and the absence of post-ictal confusion.

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Episodes are frequently preceded by identifiable emotional precipitants: arguments, bad news, distressing events. They often occur in socially charged contexts, including funeral gatherings, family conflicts, and public spaces, and they may be associated with secondary gain (receiving attention, avoiding distressing situations, mobilizing family support). This social embedding of functional seizures is not evidence of deliberate simulation; it reflects the genuine way in which the brain's prediction-generating machinery responds to social and emotional context.

The cluster occurrence of functional seizures deserves special mention. In Bangladesh, as in other low- and middle-income countries, cases of functional seizures not infrequently occur in clusters, with multiple individuals in a school, village, or factory experiencing episodes within a short period. These cluster occurrences have been reported from garment factories in Dhaka (where predominantly female workforces may experience collective episodes in the context of workplace stress and social contagion), from schools, and from communities following distressing events. The phenomenon of mass psychogenic illness, which is the broader category encompassing these cluster episodes, is discussed further below.

118.3 Mass Psychogenic Illness in Bangladesh: A Public Health Perspective

Mass psychogenic illness (MPI), also called mass functional illness or mass sociogenic illness, refers to the rapid spread of illness symptoms among members of a cohesive social group, without an identifiable organic cause. It is one of the most dramatic and socially challenging expressions of the relationship between psychological and social factors and bodily experience, and it has been documented in Bangladesh with notable frequency.

The Bangladesh garment industry has been the setting for particularly well-documented episodes of MPI. Beginning in the 1990s and continuing through the 2000s and 2010s, multiple episodes have been reported in which groups of workers (predominantly young women) at garment factories experienced sudden onset of faintness, weakness, convulsions, breathing difficulties, and collapse, leading to temporary closure of factories and hospitalization of workers. Investigation typically failed to identify a toxic or infectious cause, though the onset was often attributed to specific environmental triggers (a strange smell, a substance in the air, contaminated food). Psychiatric evaluation of affected workers typically found high rates of anxiety, depression, and somatic symptom disorder, occurring in a context of poor working conditions, long working hours, inadequate rest, heat stress, and pressure to meet production targets.

The theoretical account of MPI identifies several interacting mechanisms. Social contagion through observational learning and imitation plays a role: when one worker collapses, the sight of the collapse, together with the shared knowledge that others are ill, creates a priming effect that amplifies somatic perception in other workers. Anxiety generated by the belief that there is an environmental threat (a toxic substance, a contaminated food item) activates the stress response and generates somatic symptoms through the physiological pathways described above. Social factors including social role, group membership, and the distribution of status and influence within the affected community shape who is most affected and how the episode evolves. The attribution of the episode to an external cause (the smell, the food) rather than to

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psychological factors is universal and should be understood as reflecting the genuine experience of the affected individuals rather than as deliberate deception.

The public health response to episodes of MPI in Bangladesh has historically been suboptimal. The tendency to pursue extensive environmental investigation, to evacuate factories and schools, and to treat the episode primarily as an environmental health problem rather than a psychosocial one can inadvertently reinforce the epidemic by legitimizing the illness behavior, disrupting the normal social context in which symptoms resolve, and communicating to workers that there is indeed an external threat. Effective management of MPI requires rapid public health investigation to rule out genuine toxic or infectious causes, clear and honest public communication, minimal disruption to routine, rapid return to normal activities, and appropriate psychosocial support for affected individuals.

118.4 Assessment and Diagnosis of Functional Neurological Disorder in Bangladesh

The diagnosis of functional neurological disorder requires specialist neurological assessment, and this creates an immediate challenge in Bangladesh where neurologists are concentrated in a small number of urban centers and are not accessible to the majority of the population. The development of practical guidance for the recognition and initial management of FND at the primary care and district hospital level is an important priority.

The key clinical principle of FND diagnosis is that it is a positive diagnosis based on the presence of specific clinical signs that are incompatible with recognized neurological disease, rather than a diagnosis of exclusion made after all investigations are negative. Several clinical signs have been validated as reliable indicators of FND:

In functional weakness, the Hoover sign is the most reliable: the involuntary hip extension that occurs during contralateral hip flexion is present in the affected leg during voluntary straight leg raising but is absent during voluntary hip extension. The sign demonstrates that the leg's extensor mechanism is functioning normally when it is not under direct voluntary control, confirming the functional character of the apparent weakness.

In functional seizures, several features help distinguish them from epileptic seizures: prolonged duration (typically more than two minutes, much longer than typical epileptic seizures), preserved or fluctuating responsiveness during the episode, lack of typical post-ictal confusion and fatigue, and specific motor patterns such as side-to-side head rolling, pelvic thrusting, and crying. The gold standard investigation is video-electroencephalography (video-EEG), which records both the clinical features of an episode and the brain electrical activity simultaneously: in functional seizures, there is a clinical episode without the electrographic signature of epileptiform activity. This investigation is available only at a handful of specialist centers in Bangladesh, creating a significant diagnostic bottleneck.

In functional tremor, clinical features that distinguish it from organic tremor include marked variability in the frequency and amplitude of the tremor, distractibility (the tremor changes or stops when the patient is asked to perform a complex task with the unaffected hand), and synchronization between the tremor and voluntary rhythmic movements (entrainment). These

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features reflect the mechanism described above: attention to the tremor amplifies it, while attention directed elsewhere reduces it.

The broader neurological assessment in FND must include a thorough history taking that specifically addresses the onset of symptoms (often in the context of an acute stressor or a period of physiological vulnerability such as surgery or illness), the temporal pattern of symptoms, precipitating and relieving factors, the patient's understanding of their condition, and the social and occupational consequences. Psychological assessment should address current depression, anxiety, and PTSD symptoms, relevant trauma history, and the patient's beliefs and attitudes toward their symptoms. Rating scales adapted for the Bangladeshi context should be used where available.

CHAPTER ONE HUNDRED AND NINETEEN: ILLNESS ANXIETY DISORDER AND HEALTH ANXIETY IN BANGLADESH

119.1 Understanding Health Anxiety: Definitions and Distinctions

Health anxiety exists on a continuum, from the normal and adaptive concern about health that motivates medical help-seeking and health-protective behavior, to the severe and disabling preoccupation with illness that constitutes illness anxiety disorder. Understanding where on this continuum a patient falls, and what processes are maintaining their anxiety at a problematic level, is essential for effective clinical management.

Illness anxiety disorder, as defined in DSM-5-TR, is characterized by a preoccupation with having or acquiring a serious, undiagnosed medical illness, with high health-related anxiety and heightened sensitivity to bodily symptoms, where the preoccupation is not better explained by another mental disorder. The person may engage in maladaptive health behaviors such as repeated checking, excessive reassurance seeking, and extensive research into possible diseases, or they may avoid medical settings out of fear of receiving a frightening diagnosis. The preoccupation and associated distress must cause significant impairment.

In Bangladesh, illness anxiety disorder presents several distinctive clinical features. The feared illness is typically a physical one: heart disease (particularly in the context of chest pain and palpitations), cancer, tuberculosis, or kidney disease. The concern about cancer is often associated with specific cultural beliefs about disease transmission and with the high visibility of cancer mortality in communities where end-stage disease is commonly encountered before diagnosis. Fear of HIV/AIDS, while often not articulated directly because of the associated stigma, may underlie some presentations of health anxiety, particularly in men with a history of extramarital sexual contacts.

The relationship between illness anxiety disorder and somatic symptom disorder involves considerable overlap: many patients experience both significant somatic symptoms and significant preoccupation with their meaning. DSM-5 differentiates the two primarily on the basis of whether prominent somatic symptoms are present (somatic symptom disorder) or absent

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(illness anxiety disorder), though in practice this distinction is less clear than the categorical system implies.

119.2 The Cognitive-Behavioral Model of Health Anxiety

The most well-developed theoretical account of illness anxiety disorder is the cognitive-behavioral model, developed primarily by Paul Salkovskis and Hilton Warwick. This model proposes that health anxiety is maintained by a set of interacting cognitive and behavioral mechanisms that form a self-perpetuating cycle.

The cycle begins with the perception of a bodily symptom, information, or event that triggers illness-related concern (for example, a headache, a news story about a disease, or the death of an acquaintance from cancer). This trigger activates underlying beliefs about illness and health that are characteristic of the person with health anxiety: beliefs such as "any symptom must have a serious cause," "it is irresponsible not to check out any health concern immediately," and "doctors often miss serious diseases." These beliefs generate anxiety, which has two effects: it produces bodily symptoms through the physiological effects of arousal (palpitations, muscle tension, breathlessness), and it increases attention to bodily sensations, making the person more likely to notice and attend to further somatic signals.

The behavioral responses to health anxiety, specifically the seeking of medical reassurance, the extensive searching of medical information, and the repeated checking of bodily symptoms, provide short-term relief but maintain the anxiety in the longer term. Medical reassurance works only briefly because the belief underlying the anxiety ("the doctor may have missed something," "the test may have been wrong") is not fundamentally altered by reassurance. Repeated checking of bodily symptoms increases somatic awareness and leads to the detection of more minor sensations that can fuel further concern. The avoidance that some people adopt (avoiding medical settings, avoiding reading about illness) prevents the natural extinction of illness-related fear and maintains its intensity.

This cognitive-behavioral model has clear therapeutic implications: treatment should target the maintaining mechanisms, specifically the problematic beliefs about illness, the maladaptive behavioral responses, and the attentional biases toward health information. Cognitive-behavioral therapy for illness anxiety disorder, which addresses these maintaining mechanisms directly, has a well-established evidence base in high-income countries and is beginning to be adapted for use in Bangladesh.

119.3 The Social Dimensions of Health Anxiety in Bangladesh

In Bangladesh, health anxiety is shaped by specific social and cultural factors that are not adequately captured by models developed in high-income Western settings.

The quality and accessibility of health care is a major contextual factor. In Bangladesh, where misdiagnosis is not uncommon (partly because of resource limitations, partly because of inadequate clinical training, and partly because of the high patient-to-clinician ratios that prevent thorough assessment), the concern that serious disease has been missed is not entirely

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irrational. A patient who has been told repeatedly by different doctors that their symptoms have no serious cause, while continuing to experience those symptoms, may develop a conviction that the system has failed them. This represents not simply a cognitive distortion but a reasonable inference from their experience.

The social consequences of serious illness in Bangladesh are devastating: they include loss of employment, inability to fulfill family obligations, financial ruin, and social exclusion. In this context, extreme vigilance about health may be an adaptive response to the catastrophic risks associated with late diagnosis of treatable illness. The clinical challenge is to distinguish health vigilance that is appropriate and understandable from health preoccupation that is excessive and disabling.

Gender dynamics shape health anxiety in important ways. Women in Bangladesh often express health anxiety through somatic complaints, because the social barriers to expressing emotional concerns directly make the somatic channel the most accessible one. Men may express health anxiety through excessive investigation seeking, through functional symptoms, or through the specific cultural idiom of dhat syndrome, in which concern about the health consequences of semen loss serves as a somatic vehicle for anxiety about sexual, reproductive, and social functioning.

CHAPTER ONE HUNDRED AND TWENTY: DISSOCIATIVE DISORDERS: CLASSIFICATION, PHENOMENOLOGY, AND CONCEPTUAL FRAMEWORKS

120.1 What Is Dissociation? From Philosophy to Neuroscience

Dissociation refers to a disruption in the normal integration of conscious awareness, memory, identity, emotion, perception, behavior, and sense of self. In its mild forms, dissociation is a universal and normal aspect of human experience: the absorption in a task that causes one to lose awareness of one's surroundings, the "highway hypnosis" that occurs during long drives, the momentary confusion about one's location on waking from deep sleep. In its severe forms, dissociation involves profound disruption of the normal unity of experience: the inability to remember a significant period of one's past, the experience of being detached from one's body or one's surroundings as if observing them from outside, the sense that one's identity has fragmented into multiple parts, or the adoption of an alternative identity state in which access to the memories, feelings, and behavioral patterns of the usual self is lost.

The concept of dissociation has a long intellectual history. The French psychiatrist Pierre Janet, working in the late nineteenth century, developed the first systematic account of dissociation, which he called disaggregation of the personality. For Janet, dissociation was a failure of the synthesizing function of consciousness: normally, the conscious mind integrates the various streams of incoming experience into a unified whole, but under conditions of overwhelming stress or limited psychological capacity, this integration fails, and certain elements of experience are split off from the main current of consciousness and processed automatically without integration.

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Freud initially adopted a similar concept, using the term splitting, before replacing it with his theory of repression. The Freudian account of repression proposed that distressing memories and impulses were actively excluded from consciousness by a defensive psychological mechanism, whereas Janet's account of dissociation proposed a more passive failure of integration. This theoretical distinction has important clinical implications: the Freudian account implies that therapy should aim to uncover repressed material and bring it to consciousness, while Janet's account implies that therapy should aim to build psychological integration and synthesis.

In contemporary psychiatry, dissociation is most commonly understood through three theoretical frameworks that are not mutually exclusive. The trauma-based framework, which is now the dominant account, proposes that severe dissociation is a response to overwhelming traumatic experience, in which the normal integrative function of consciousness is disrupted by an experience that exceeds the nervous system's capacity to process and integrate. The structural dissociation of the personality theory, developed by Onno van der Hart, Ellert Nijenhuis, and Kathy Steele, proposes that trauma produces a structural division of the personality into an apparently normal part (ANP) that manages daily functioning and a traumatic part (EP) that holds trauma-related memories and affects. The sociocognitive framework, proposed by Nicholas Spanos and others, emphasizes the role of social learning, expectation, and cultural context in shaping the form and content of dissociative experiences and states.

120.2 Classification of Dissociative Disorders in ICD-11 and DSM-5-TR

The classification of dissociative disorders has been revised significantly in both ICD-11 and DSM-5-TR, and the relationship between the two systems shows both convergence and important differences that are particularly relevant for the Bangladeshi clinical context.

In DSM-5-TR, the major dissociative disorders include:

Dissociative identity disorder (DID), characterized by the presence of two or more distinct personality states or an experience of possession, recurrent gaps in the recall of everyday events, important personal information, and/or traumatic events, and significant distress or functional impairment. DID was formerly called multiple personality disorder, and it remains one of the most controversial categories in all of psychiatry.

Dissociative amnesia, characterized by an inability to recall important autobiographical information, usually of a traumatic or stressful nature, that is inconsistent with ordinary forgetting. Dissociative amnesia may be generalized (loss of all autobiographical memory from before a certain point, which is the rarest and most dramatic form), localized (inability to recall events from a specific time period, usually surrounding a traumatic event), or selective (inability to recall some but not all events from a specific period). Dissociative amnesia may be accompanied by dissociative fugue, in which the person travels away from their usual environment during the amnestic period and may adopt a different identity.

Depersonalization and derealization disorder, characterized by persistent or recurrent experiences of feeling detached from, and as if one is an outside observer of, one's mental

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processes or body (depersonalization) or of being detached from one's surroundings (derealization). Reality testing remains intact during these experiences: the person knows they are experiencing a disturbance in their normal mode of experiencing, not that the experience is literally accurate.

Other specified dissociative disorder and unspecified dissociative disorder are residual categories.

In ICD-11, the dissociative disorders include trance disorder and possession trance disorder as recognized categories, which has particular relevance for Bangladesh and other countries where possession and trance states are common and culturally embedded. ICD-11 also classifies functional neurological symptom disorder (conversion disorder) within the dissociative disorders chapter as dissociative neurological symptom disorder, reflecting the theoretical view that functional neurological symptoms involve the same dissociative mechanism as other dissociative conditions, specifically a disconnection between neural systems that normally operate together. This classification has been controversial and is not universally accepted.

120.3 Neurobiology of Dissociation: What the Brain Does During Dissociation

The neurobiology of dissociation has been illuminated substantially by functional neuroimaging studies conducted since the 2000s, and the emerging picture is both complex and theoretically important.

Studies using positron emission tomography (PET) and functional MRI (fMRI) in patients with dissociative identity disorder, dissociative amnesia, and depersonalization disorder have identified consistent patterns of brain activity that are distinct from both normal conscious states and from the brain states associated with other psychiatric conditions.

In dissociative identity disorder, neuroimaging studies comparing the brain activity of different personality states within the same individual have found different patterns of activation, particularly in regions associated with identity, autobiographical memory, and self-referential processing, including the medial prefrontal cortex, the posterior parietal cortex, and the hippocampus. These findings suggest that the different identity states in DID are associated with genuinely different patterns of neural processing, rather than being simply adopted roles without neurological correlates.

Depersonalization disorder has been associated with reduced activity in the limbic system (particularly the amygdala and associated regions) and altered connectivity between sensory processing regions and emotional processing regions. This pattern is consistent with the phenomenology of depersonalization: the world is perceived accurately but without normal emotional resonance, as if behind a glass barrier. The subjective quality of detachment may reflect the normally tight coupling between perceptual and emotional processing systems being disrupted, so that perception proceeds without the normal affective coloring.

A 2024 review in the journal Expert Review of Neurotherapeutics on the treatment of dissociative identity disorder, cited the current state of neuroscientific understanding as

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supporting a trauma-based account in which disruptions in the corticolimbic regulation of emotional memory play a central role. The review noted that treatment approaches that target these neural systems, including trauma-focused psychotherapy and potentially pharmacological augmentation, may offer the most promising path forward.

The predictive processing framework has also been applied to dissociative experiences. In this account, dissociation represents a failure of the normally tight integration between different levels of the predictive hierarchy, so that high-level self-models and low-level sensorimotor predictions are decoupled from each other. The experience of depersonalization may reflect a situation in which the high-level self-model is intact but disconnected from the lower-level affective and interoceptive signals that normally give it its sense of reality and presence. Dissociative amnesia may reflect a disruption in the predictive modeling of self in time, so that predictions about the self's past and future are no longer accessible.

CHAPTER ONE HUNDRED AND TWENTY-ONE: DISSOCIATIVE DISORDERS IN BANGLADESH: CULTURAL CONTEXT, CLINICAL ASSESSMENT, AND MANAGEMENT

121.1 The Cultural Context of Dissociation in Bangladesh

No aspect of psychiatric practice in Bangladesh is more thoroughly embedded in cultural context than the clinical approach to dissociative disorders. The reasons are both epidemiological and theoretical: dissociative presentations are extremely common in Bangladesh, they frequently present in culturally specific forms that may not be recognized by clinicians trained primarily in Western psychiatric frameworks, and the understanding and management of dissociative states by patients, families, and communities is deeply shaped by cultural, religious, and spiritual frameworks that have their own logic and their own therapeutic traditions.

The most culturally salient dissociative presentations in Bangladesh are those involving possession states: episodes in which a person appears to take on a different identity, personality, or behavioral pattern, which is attributed by the person and their community to the entry of a supernatural entity, typically a jinn (spirit), the soul of a deceased person, or a divine or demonic presence. Possession states occur across many cultures and have been documented throughout human history. In Bangladesh, they are recognized as a form of experience that may be either spiritually meaningful (in the case of possession by divine beings or deceased saints, which may be interpreted as conferring special status) or distressing and disruptive (in the case of possession by malevolent jinn or other threatening entities).

The clinical features of possession states in Bangladesh are variable but often include: sudden onset of an altered state of consciousness, frequently in a socially charged context; the adoption of a different voice, manner, and behavioral pattern that is attributed to a possessing entity; amnesia for the episode after recovery; the absence of ictal neurological features that would indicate epilepsy; and rapid recovery, often facilitated by ritual intervention by a healer. Family

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members and community members typically engage actively with the possessing entity during the episode, negotiating with it, appealing to it, or performing ritual acts intended to remove it.

The relationship between possession states and formal psychiatric diagnosis is complex and contested. Research from India, Bangladesh, and Sri Lanka has consistently found that a substantial proportion of people who present to specialist services with possession episodes meet criteria for a formal psychiatric diagnosis, most commonly dissociative disorder, but also depression, anxiety, PTSD, and occasionally psychosis. A 2025 review of dissociative disorders in India, with direct relevance to Bangladesh given the cultural similarities, noted the parallels between trance and possession disorder and dissociative identity disorder, and highlighted the cultural influences on the phenomenology and therapeutic pathways for dissociative conditions in South Asia.

However, it would be clinically and culturally inappropriate to simply equate possession states with psychiatric disorders. Many possession episodes are transient, socially contained, and resolved by culturally appropriate ritual intervention without lasting distress or impairment. The ICD-11 explicitly recognizes this by defining possession trance disorder as a condition in which the possession or trance state is experienced as unwanted and involuntary, causes significant distress or functional impairment, and is not a normal part of a broadly accepted cultural or religious practice. This specification is clinically important: it provides a framework for distinguishing between culturally normative possession experiences that do not require psychiatric intervention and pathological possession states that do.

121.2 Epidemiology of Dissociative Disorders in Bangladesh

Epidemiological data on dissociative disorders in Bangladesh is limited but suggestive of high prevalence. The 2019 National Mental Health Survey did not separately report the prevalence of dissociative disorders, subsuming them within the broader category of somatoform and related conditions. Clinic-based studies from psychiatric outpatient departments in Dhaka and other major centers have consistently found that dissociative disorders constitute 5 to 15 percent of new psychiatric referrals, with higher rates in some settings (notably the National Institute of Mental Health) and lower rates in others.

Studies in primary care settings in Bangladesh have found that acute dissociative presentations, including fainting episodes, trance states, and episodes of behavioral change, are extremely common and represent a significant proportion of emergency medical contacts in some districts. Rural health workers report that dissociative episodes are among the most common acute conditions they encounter in the field, and the inadequacy of their training for managing these presentations is a significant gap.

Specific population groups appear to have elevated rates of dissociative disorders in Bangladesh. Women from rural backgrounds, particularly those with histories of childhood trauma, domestic violence, or repressed grief, are disproportionately represented in clinic samples. Adolescent girls appear to have particularly high rates of acute dissociative episodes, which are often interpreted by families as possession and which may cluster in educational settings (schools, madrasas). The relationship between these adolescent dissociative episodes

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and developmental and social factors, including the stresses of puberty, academic pressure, and the social restrictions of adolescence for girls in Bangladesh, deserves more systematic research.

The Rohingya refugee population in Cox's Bazar represents a group with particularly extreme dissociative disorder risk. The combination of massive trauma exposure (including witnessing killing, rape, and the destruction of communities), chronic stress in camp conditions, cultural dislocation, and profound uncertainty about the future creates conditions that are maximally conducive to dissociative pathology. Mental health assessments of the Rohingya population conducted by international organizations have found very high rates of trauma-related and dissociative symptoms, though formal epidemiological data is limited.

121.3 Traditional Healing and Dissociative Disorders: Engagement and Boundaries

The traditional healing sector plays a substantial role in the management of dissociative disorders in Bangladesh, and the relationship between traditional healing and psychiatric care is one of the most important practical issues in this domain. As noted in Part One, the primary help-seeking pathway for dissociative presentations in Bangladesh typically begins with traditional healers: family-based care, then village healers (kabiraj, ojha), then religious healers (fakir, shrine-based practitioners), and only finally psychiatric services, if at all.

Traditional healing practices for dissociative and possession states in Bangladesh draw on both Islamic and pre-Islamic folk traditions. Islamic healing practices include recitation of Quranic verses (ruqyah), which is explicitly permitted within Islamic theology and has a formal tradition of practice. More elaborate ritual practices, including the use of amulets (taweez), the burning of incense, and the performance of exorcism rituals, draw on folk Islamic traditions that overlap with pre-Islamic healing practices. Hindu minority communities in Bangladesh maintain their own healing traditions including rituals at temples and contact with jyotishi (astrologers) and ojha.

The effectiveness of traditional healing for dissociative disorders is not easily evaluated within the framework of evidence-based medicine, partly because the outcomes sought by traditional healers and their clients are defined in different terms from those used by psychiatry (symptom remission versus restoration of cosmic harmony, for example), and partly because the social and ritual dimensions of traditional healing may have genuine therapeutic effects through mechanisms that include social support, meaning-making, the activation of expectation and suggestion, and the mobilization of the patient's own coping resources. Case studies and observational data suggest that a substantial proportion of acute dissociative episodes do resolve following traditional healing intervention, and that the social containment provided by the ritual context of traditional healing may be genuinely beneficial.

The limits of traditional healing for dissociative disorders are also real and sometimes severe. Healing practices that involve prolonged confinement, physical restraint, food restriction, or exposure to extreme heat or cold may cause physical harm. The shrine-based care of people with severe and chronic dissociative disorders in Bangladesh has been associated with documented human rights abuses, including chaining, neglect, and physical abuse. The attribution of symptoms to malevolent spirits can stigmatize the person and their family in ways that cause

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lasting social harm. And the delay in accessing psychiatric care that results from prior engagement with traditional healers can allow treatable conditions to become more entrenched.

The appropriate clinical response to this complex landscape is not to dismiss traditional healing but to engage with it critically and collaboratively. Clinicians should routinely ask about prior help-seeking from traditional healers, should respond to this information without judgment, and should seek to understand what the patient and family found helpful and what was not helpful. Where traditional healing is providing genuine comfort and support without causing harm, it may be integrated with psychiatric care rather than replaced by it. Where traditional healing is causing harm or delaying necessary care, this should be addressed directly and compassionately, with explicit attention to the patient's and family's beliefs and values.

121.4 Clinical Assessment of Dissociative Disorders in Bangladesh

A thorough and culturally sensitive clinical assessment is essential for accurate diagnosis and effective treatment planning for patients with dissociative disorders in Bangladesh. The assessment should cover the following domains.

The presenting complaint and its history: The clinician should take a detailed account of the current episode and of any previous similar episodes. For possession states, this should include the circumstances of onset, the content of what the person or the possessing entity communicated, the duration and resolution of the episode, and what interventions were used. The temporal relationship between psychosocial stressors and dissociative episodes should be explored carefully, recognizing that patients and families may not identify this relationship spontaneously.

Mental state examination: The mental state examination in a patient with a dissociative disorder may be conducted during an episode, in which case it should focus on the current presentation and its features (level of consciousness, responsiveness, the content of any verbal productions, motor behavior), or between episodes, in which case it should focus on the patient's account of their experiences, their beliefs about their condition, and any current mood disorder symptoms.

Trauma and adversity history: The assessment of trauma history is particularly important for dissociative disorders, given the strong association between trauma and dissociation. This assessment requires sensitivity and a careful build-up of rapport before potentially distressing material is approached. Questions about childhood experiences of physical, emotional, and sexual abuse and neglect, and about adult experiences of intimate partner violence, should be incorporated into the assessment but should be preceded by careful explanation of their purpose and explicit permission-seeking.

Assessment of depression, anxiety, and PTSD: Given the high rates of comorbidity between dissociative disorders and other mental disorders, systematic assessment of depression, anxiety, and PTSD symptoms should be part of every evaluation. The PHQ-9, GAD-7, and PC-PTSD-5 are brief, validated instruments that can be used in primary care and general medical settings.

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Neurological assessment: The neurological assessment is particularly important in cases where functional neurological symptoms are present. As described above, specific clinical signs can confirm the functional character of neurological presentations. In cases where there is any clinical uncertainty, neurological investigation including EEG (for suspected functional seizures) or MRI (for suspected functional movement or sensory disorders) should be considered, though the availability of these investigations is limited outside major urban centers in Bangladesh.

Assessment instruments specific to dissociation: The Dissociative Experiences Scale (DES), a widely used self-report measure of dissociative experiences, has been used in research settings in Bangladesh but is not routinely administered in clinical practice. The Structured Clinical Interview for Dissociative Disorders (SCID-D) provides a more thorough evaluation but requires trained administration. The development and validation of culturally adapted assessment instruments for dissociative disorders in Bangladesh, including instruments that can identify culturally specific presentations such as possession states, is an important research priority.

CHAPTER ONE HUNDRED AND TWENTY-TWO: TRANCE, POSSESSION, AND MASS PSYCHOGENIC ILLNESS: AT THE INTERSECTION OF CULTURE, RELIGION, AND PSYCHIATRY IN BANGLADESH

122.1 The Phenomenology of Possession: Between Religious Experience and Psychiatric Disorder

The experience of possession, in which a person believes themselves to be occupied, controlled, or temporarily replaced by a spiritual entity, exists at one of the most contested intersections in all of psychiatry: the intersection between religious and spiritual experience, cultural practice, and psychopathology. This intersection is particularly consequential in Bangladesh, where belief in the reality and clinical significance of possession by jinn is widespread across all social strata and where possession states are among the most common presentations to both traditional healers and psychiatric services.

The phenomenology of possession states in Bangladesh encompasses a spectrum of experiences that range from culturally normative to clearly pathological. At one end of the spectrum are brief, socially contained possession episodes that occur in specific cultural contexts (during religious ceremonies, at shrines, in the context of grief rituals) and that resolve spontaneously or through ritual intervention without lasting distress or impairment. These experiences are understood within the community as spiritually meaningful and are not regarded by the person or their community as illness. At the other end of the spectrum are severe, prolonged, and disabling possession states that cause significant suffering, disrupt social functioning, and fail to respond to culturally appropriate interventions.

Between these extremes lies a complex territory of experiences that do not fit neatly into either the category of normal cultural practice or the category of psychiatric disorder. A young woman

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who experiences repeated possession episodes in the context of marital stress, who is temporarily hospitalized at a shrine but experiences recurrences, and whose family's interpretation of the episodes as jinn possession prevents engagement with psychiatric care, occupies this ambiguous territory. The clinician's challenge is to navigate it in a way that takes seriously the cultural meaning of the experience, assesses for underlying psychiatric pathology, and offers care that is both effective and culturally acceptable.

The Islamic theological framework for understanding possession deserves specific attention because of its importance in Bangladesh. Islamic theology explicitly recognizes the existence of jinn as a class of intelligent beings created from smokeless fire, whose existence is affirmed in the Quran (Surah Al-Jinn). The idea that jinn can interact with, possess, or torment human beings is accepted within mainstream Islamic belief and is not simply a folk superstition. Islamic scholars have developed sophisticated theological and legal frameworks for understanding and responding to possession, and the practice of ruqyah (recitation of Quranic verses as a healing intervention) is explicitly endorsed in hadith literature.

This theological framework means that the experience of possession has a legitimate and intelligible place within the worldview of devout Bangladeshi Muslims, and that the clinical encounter with a patient presenting with possession must take this framework seriously rather than dismissing it. At the same time, Islamic scholarship also distinguishes between genuine possession (which is real and addressable through religious means) and conditions that mimic possession but arise from natural (including psychiatric) causes. This distinction provides a potential bridge between Islamic and psychiatric frameworks: if the patient and family can be helped to understand that their condition may be one that arises from natural causes requiring natural (including medical) treatment, this does not necessarily require them to abandon their belief in the reality of jinn or in the potential for spiritual healing.

122.2 Mass Psychogenic Illness: Case Studies from Bangladesh

Mass psychogenic illness (MPI) in Bangladesh deserves detailed examination because it has been a recurring public health challenge and because its management has often been inadequate. Several well-documented cases illustrate the features of this phenomenon and the lessons to be drawn for public health practice.

In an industrial zone outside Dhaka in 2012, a cluster of 87 workers at a garment factory experienced sudden onset of faintness, weakness, headache, and vomiting over the course of a single afternoon. The episode was triggered by the smell of an unidentified substance that one worker reported noticing and that was quickly attributed by workers to a toxic gas or contaminated water. Investigation by factory management, the occupational health team, and eventually public health authorities found no toxic substance at levels that could cause the reported symptoms. All affected workers recovered fully within 24 hours. A subsequent psychiatric assessment found that the factory had recently experienced two accidents, that workers were under significant production pressure, that several workers had recent personal losses or stressors, and that the worker who first reported the smell had a history of anxiety disorder.

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In a school in Sylhet in 2019, 34 schoolgirls experienced episodes of loss of consciousness, shaking, and crying over a period of two weeks. The episodes began after the sudden death of a popular teacher and spread through the school at a rate that appeared to correlate with social proximity to affected individuals. Investigation found no environmental cause and no evidence of any infectious agent. Psychiatric assessment found that several of the most severely affected girls had complex grief reactions to the teacher's death, and that the school environment was one in which emotional distress was rarely acknowledged or addressed directly.

These case studies illustrate several consistent features of MPI in Bangladesh: the precipitation of episodes by a specific stressful event or environment, the role of suggestion and social contagion in spreading episodes, the disproportionate representation of women and girls among those affected, and the absence of an identifiable environmental cause despite extensive investigation. They also illustrate the inadequacy of pure environmental investigation as a response: addressing MPI effectively requires rapid psychiatric and psychosocial assessment, clear and honest public communication, and the provision of accessible psychosocial support to affected individuals.

A particularly important and underappreciated public health dimension of MPI in Bangladesh is its role in revealing hidden social suffering. When a cluster of garment workers experiences collective illness in response to a non-toxic environmental stimulus, this is not simply a quirk of human neurology; it is a signal that the social and psychological conditions of their working environment have become intolerable and are generating suffering that has no legitimate outlet. Addressing MPI effectively therefore requires not only the immediate clinical and public health response but also an examination of the structural conditions, including the labor conditions, the management practices, and the social environment, that generate the underlying distress.

CHAPTER ONE HUNDRED AND TWENTY-THREE: DISSOCIATIVE IDENTITY DISORDER AND COMPLEX DISSOCIATION: CONTROVERSIES, CLINICAL REALITIES, AND THE BANGLADESH PERSPECTIVE

123.1 Dissociative Identity Disorder: A Diagnosis in Controversy

Dissociative identity disorder (DID) is among the most controversial diagnoses in all of psychiatry. Its history, its validity, its epidemiology, its relationship to trauma, and the ethics of its clinical management have all been subjects of intense and sometimes bitter debate. Engaging honestly with this controversy, while also taking seriously the clinical reality of people who experience profound disruptions of identity and memory that cause them significant suffering, is an important intellectual responsibility.

DID, formerly called multiple personality disorder, is defined by the presence of two or more distinct personality states (alters), recurrent gaps in memory for everyday events and for traumatic experiences, and significant distress or impairment. The condition has been described since the eighteenth century, but it attracted widespread clinical and public attention in the late twentieth century, particularly after the publication of popular accounts such as "The Three

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Faces of Eve" (1957) and "Sybil" (1973), the latter of which has since been subjected to significant historical revision casting doubt on the authenticity of the case.

The controversy about DID operates on several levels. Sociohistorical critics, following the work of Ian Hacking, argue that DID is partly a culturally constructed phenomenon, shaped by the expectations and practices of therapists and by the wider cultural availability of the multiple personality narrative in Western societies. The dramatic increase in DID diagnoses in North America during the 1980s and 1990s, which coincided with intense clinical and popular interest in the condition, is consistent with this view. The argument is not that patients are deliberately fabricating their symptoms, but that the specific form taken by dissociative experiences (the number and character of alter personalities, the narratives of childhood abuse, the specific memories recovered in therapy) is shaped by the cultural context in which the dissociation occurs and by the therapeutic interactions that help to elicit and elaborate it.

A 2024 neuroscience review on the treatment of DID, published in Expert Review of Neurotherapeutics, took a more integrative position, arguing that while social and iatrogenic factors undoubtedly influence the presentation of DID, the underlying capacity for structural dissociation of the personality is a genuine neurobiological phenomenon, rooted in trauma-related disruptions of corticolimbic integration and memory consolidation. This view is consistent with the trauma-based theoretical framework described above and is supported by the neuroimaging findings that have demonstrated genuine differences in brain activity across different personality states in DID.

In Bangladesh, DID as classically described (with elaborated alter systems, complex identity switching, and florid recovered trauma memories) is rarely diagnosed, and it is unclear whether this reflects a genuinely lower prevalence, a cultural shaping of dissociative experiences into different forms, or simply diagnostic practice. The possession-based presentations that are common in Bangladesh may represent a culturally shaped expression of structural dissociation: rather than taking on the identity of a different human persona (as in classic Western DID), the dissociative state takes on the identity of a spiritual entity, which is the culturally available framework for understanding discontinuities in experience and identity. ICD-11's recognition of possession trance disorder as a formal category acknowledges this cultural shaping explicitly.

123.2 Trauma, Memory, and Dissociation: The Science and the Controversy

The relationship between trauma, memory, and dissociation is one of the most scientifically complex and clinically consequential areas in all of psychiatry. Three interrelated controversies deserve explicit discussion.

The first controversy concerns the accuracy of traumatic memories recovered during psychotherapy or in the context of dissociative episodes. The "recovered memory" debates of the 1980s and 1990s in North America demonstrated convincingly that human memory is reconstructive rather than reproductive, and that memories of events can be implanted or elaborated through suggestion, whether deliberate or inadvertent. The case of Sybil, referenced above, appears to represent an extreme version of this phenomenon. These findings do not mean that all memories recovered in therapy are false or unreliable, but they mean that recovered

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memories should not be uncritically accepted as accurate historical records, and that clinical practice must be careful not to implant or elaborate false memories through leading questions, suggestive therapies, or interpretive pressure.

The second controversy concerns the relationship between childhood sexual abuse and dissociative disorders. The trauma-based theory proposes that dissociation is primarily a response to overwhelming childhood trauma, particularly sexual abuse. Research consistently finds elevated rates of childhood trauma in people diagnosed with DID and other severe dissociative disorders. However, the research is complicated by the possibility of recall bias (traumatized patients may be more likely to attribute psychological symptoms to trauma), by the possibility that some trauma memories reported by DID patients were created or elaborated in therapy, and by the possibility of reverse causation (people with high dissociative capacity may be more vulnerable to developing elaborate memories of trauma, including false ones).

The third controversy, particularly relevant for Bangladesh, concerns the role of cultural factors in shaping the form and expression of trauma-related dissociation. Cross-cultural research has established that traumatic experience can produce very different dissociative presentations across cultural contexts: possession states in South Asia, spirit possession in parts of Africa, elaborate alter systems in North America. This cultural shaping does not mean that the underlying psychological and neural processes are fundamentally different; it means that the form taken by dissociation is influenced by the cultural frameworks available to the person for making sense of discontinuous experience. Understanding this cultural shaping is essential for clinical practice in Bangladesh.

CHAPTER ONE HUNDRED AND TWENTY-FOUR: DEPERSONALIZATION AND DEREALIZATION DISORDER: THE EXPERIENCE OF UNREALITY

124.1 Phenomenology: What Does Unreality Feel Like?

Depersonalization and derealization disorder (DDD) is characterized by persistent or recurrent experiences of depersonalization (feeling detached from one's mental processes or body, as if one is an outside observer), derealization (feeling detached from one's surroundings, as if they are unreal or dreamlike), or both. These experiences are among the most distressing and difficult to communicate of all psychiatric symptoms, partly because they defy ordinary language and partly because the person's reality testing remains intact throughout, meaning they know they are not literally watching themselves from outside their body or literally in a dream, while simultaneously experiencing it that way.

A patient in Dhaka describing depersonalization might say: "I feel like I am watching myself from outside, like a ghost watching its own body. I know it is me, but it does not feel like me. My hands move but they do not feel like my hands." A patient describing derealization might say: "The world looks like a painting, not real. My family's faces look like faces in a photograph. I know they are real but they do not feel real." These descriptions, while culturally specific in their

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idioms, capture the essential phenomenology that is reported across cultures: a disruption in the sense of realness and ownership that normally characterizes one's experience of self and world.

The onset of depersonalization and derealization experiences is often precipitated by specific triggers: extreme anxiety or panic, cannabis use, sleep deprivation, sensory deprivation, or a specifically distressing experience. For many people, these experiences are transient: the brief depersonalization that occurs during extreme stress or fatigue is extremely common and does not constitute a disorder. DDD as a diagnosable condition is characterized by the persistence and recurrence of these experiences and by the distress and impairment they cause. The person with DDD typically develops secondary anxiety about the experiences themselves (fear of "going mad," fear that the experiences are permanent, preoccupation with what the experiences signify), which paradoxically maintains and amplifies them.

A 2023 systematic review published in the Journal of Trauma and Dissociation found that the prevalence of depersonalization-derealization disorder is substantially higher than previously believed, with lifetime prevalence rates in community samples ranging from 1 to 2 percent and with the condition disproportionately affecting young adults, people with anxiety disorders, and people with a history of trauma.

124.2 DDD in Bangladesh: Clinical Recognition and Management

DDD appears to be substantially underrecognized in Bangladesh. The experiential quality of the condition, specifically the disruption of the sense of realness, may be communicated through idioms that do not immediately suggest the diagnosis to clinicians trained primarily on Western presentations. Patients may describe feeling like they are "dead but alive," or may use terms like "numbness of the heart" or "not feeling myself" that overlap with idioms for depression or spiritual emptiness.

The experience of derealization, specifically the sense that the familiar world has become strange or unreal, may be interpreted within a spiritual framework as a sign of spiritual distress, possession, or divine communication, potentially leading to consultation with religious healers rather than medical practitioners. This is not necessarily unhelpful if the religious consultation provides reassurance and meaning, but it may delay appropriate psychiatric care if the underlying condition is causing significant distress.

Effective management of DDD in Bangladesh requires:

Accurate diagnosis, which requires familiarity with the phenomenology of depersonalization and derealization and the ability to elicit these experiences sensitively during clinical assessment. The Cambridge Depersonalization Scale (CDS) provides a validated measure of DDD symptoms that could be adapted for use in Bangladesh.

Psychoeducation about the nature of the experiences, specifically that they are a recognized condition of the nervous system, that they are not a sign of psychosis or "going mad," that they are not dangerous, and that they typically improve with appropriate treatment. Many patients

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with DDD are profoundly relieved to learn that their experiences have a name and are recognized by medicine.

Cognitive-behavioral approaches targeting the secondary anxiety about the experiences: techniques for accepting the experiences without fighting them, reducing preoccupation with their meaning, and gradually reducing the attentional focus on them.

Treatment of comorbid conditions, since DDD very rarely occurs in isolation: comorbid depression, anxiety disorders, and PTSD are extremely common and require specific treatment that often improves the DDD.

Pharmacological treatment options are limited: there is no established first-line pharmacotherapy for DDD, and antidepressants show variable benefit. Emerging evidence suggests that opioid antagonists such as naltrexone may reduce the intensity of depersonalization experiences in some patients, and lamotrigine may be helpful in a subgroup.

CHAPTER ONE HUNDRED AND TWENTY-FIVE: TREATMENT OF SOMATIC AND DISSOCIATIVE DISORDERS IN BANGLADESH: PRINCIPLES AND PRACTICE

125.1 General Principles of Treatment

The treatment of somatic symptom and dissociative disorders in Bangladesh requires an approach that is simultaneously evidence-based, culturally sensitive, practically feasible, and philosophically coherent. The general principles that should guide this treatment are as follows.

The therapeutic relationship is the foundation of effective treatment for these conditions. More than in almost any other area of psychiatry, the quality of the clinician-patient relationship determines whether the patient will engage with treatment, whether they will be able to use the treatment productively, and whether the treatment will achieve lasting benefit. Building this relationship requires consistent, respectful, non-judgmental engagement over time; frank acknowledgment of the reality and severity of the patient's suffering; clear communication about the nature of the condition in language that the patient can accept and work with; and explicit attention to the patient's values, beliefs, and priorities.

The treatment approach should be integrative, not reductionist. No single treatment modality is adequate for the complexity of somatic and dissociative disorders. Effective treatment typically requires a combination of approaches: psychoeducation, psychological therapy, pharmacological treatment of comorbid conditions, social interventions addressing the environmental factors that maintain the symptoms, and sometimes engagement with traditional healing resources where these are providing genuine benefit. The challenge is to coordinate these approaches coherently rather than delivering them in a fragmented way that leaves the patient confused about their condition and their treatment.

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Treatment goals should be jointly defined with the patient and should be realistic. For many patients with chronic somatic symptom disorder or severe dissociative disorder, complete symptom remission is not achievable in the short term. A more realistic goal is improved functioning, reduced disability, improved quality of life, and better management of symptoms. Sharing this framing with the patient, and celebrating gains in function rather than focusing exclusively on symptom reduction, is an important aspect of the recovery-oriented approach described in Part One.

Treatment should be phased appropriately. In the treatment of severe dissociative disorders, particularly those with underlying trauma, the evidence-based approach is a phased model: phase 1 (stabilization and safety), phase 2 (trauma processing), and phase 3 (integration and rehabilitation). Phase 1 establishes the therapeutic relationship, provides psychoeducation, builds coping skills, and stabilizes the patient's daily functioning and safety. Only when phase 1 is well established should trauma processing begin, because attempting to process trauma before the patient is stabilized can lead to destabilization and worsening. Phase 3 focuses on integrating the gains of trauma processing into a new sense of self and on building toward recovery and social reintegration.

125.2 Psychological Treatments: The Evidence Base and Its Bangladesh Adaptation

Cognitive-behavioral therapy (CBT) has the strongest evidence base of any psychological treatment for somatic symptom disorders. Multiple randomized controlled trials from high-income countries have established the efficacy of CBT for somatic symptom disorder, illness anxiety disorder, and functional neurological disorder, with effect sizes in the moderate to large range. The mechanisms through which CBT exerts its benefit are consistent with the theoretical account described above: it targets the cognitive distortions (catastrophizing, selective attention to health information, maladaptive beliefs about symptoms), the behavioral patterns (avoidance, excessive reassurance seeking, checking), and the attentional biases that maintain somatic symptom disorder.

Adaptations of CBT for use in Bangladesh need to address several specific cultural considerations. The cognitive component of CBT, which involves identifying and challenging automatic thoughts, may be better received in Bangladesh when framed in terms of Islamic philosophy (for example, the concept of tawakkul, trusting in God while taking appropriate action, provides a framework for accepting uncertainty about health without excessive worry) or in terms of the patient's own cultural metaphors. The behavioral component, which involves graded engagement with activities that have been avoided because of symptoms, is consistent with cultural values of self-reliance and social contribution and can be framed in those terms.

Group-based CBT, delivered to groups of patients with similar presentations, is particularly promising for Bangladesh because it makes more efficient use of the limited number of trained therapists, because the social dimension of the group may be particularly beneficial in a context where isolation and shame are major maintaining factors, and because the sharing of experiences among patients can be powerfully normalizing and validating. Pilot programs of group CBT for medically unexplained symptoms in primary care settings in Bangladesh have shown promising results.

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Mindfulness-based interventions, including mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT), have shown efficacy for somatic symptom disorders and are particularly well suited to the Bangladeshi cultural context because mindfulness practices have resonance with both Islamic spiritual traditions (the concept of muraqaba, or mindful contemplation, in Sufism) and with the mindfulness practices embedded in the Bengali Hindu and Buddhist cultural heritage. Culturally adapted mindfulness interventions for somatic symptom disorder in Bangladesh are an active area of clinical development.

For dissociative disorders, the evidence base for psychological treatment is less well developed than for somatic symptom disorders, partly because of the heterogeneity of the conditions and partly because of the methodological challenges of conducting RCTs with people who have severe and complex dissociative disorders. The most widely used evidence-informed treatment approach for severe dissociative disorders, including DID, is the phase-oriented treatment described above, incorporating elements of trauma-focused therapy, emotion regulation skill building, and therapeutic work on identity and meaning.

Eye movement desensitization and reprocessing (EMDR) has an established evidence base for PTSD and is increasingly used for trauma-related dissociative disorders. EMDR is available at a small number of specialist centers in Bangladesh, and trained EMDR therapists are gradually increasing in number. The development of brief, adapted forms of EMDR that can be delivered by appropriately trained non-specialist clinicians is an important priority for expanding access to trauma-focused treatment in Bangladesh.

125.3 Pharmacological Approaches

Pharmacological treatment of somatic symptom disorders and dissociative disorders plays a supporting rather than a primary role, and the evidence base for pharmacological approaches in these conditions is considerably weaker than for the psychological approaches described above.

For somatic symptom disorder, the most commonly used pharmacological approaches target the comorbid conditions that almost universally accompany it. Depression, which is present in 40 to 60 percent of patients with somatic symptom disorder, responds well to antidepressant treatment. Low-dose antidepressants (particularly amitriptyline, duloxetine, and venlafaxine) also have evidence for analgesic and symptom-modifying effects in somatic symptom disorders beyond their antidepressant effects, possibly through their actions on descending pain modulation pathways and through effects on central sensitization. In Bangladesh, where access to SSRIs and SNRIs may be limited by cost, tricyclic antidepressants at low doses (amitriptyline 10 to 25 mg nightly) are a cost-effective option with a reasonable evidence base for somatic pain and sleep disturbance.

Benzodiazepines are commonly prescribed for anxiety associated with somatic symptom disorder in Bangladesh, but their long-term use carries significant risks of dependence, cognitive impairment, and worsening of the underlying condition. The prescribing of benzodiazepines for somatic symptom disorder should be avoided where possible, or strictly limited to short-term use (not more than four weeks) with explicit discussion of their limited long-term efficacy and dependence potential.

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For dissociative disorders, there is no established first-line pharmacotherapy. The pharmacological treatment of comorbid depression, anxiety, and PTSD should be provided according to standard guidelines for those conditions. Antipsychotic medications are sometimes used in low doses for severe dissociative symptoms, particularly in patients with DID who experience significant intrusion of trauma-related material into consciousness, but the evidence base for this use is limited.

For functional neurological disorder, pharmacological treatment should focus primarily on comorbid conditions. Antiepileptic medications are sometimes prescribed for functional seizures on the basis of a misdiagnosis of epilepsy, and this represents a significant clinical problem in Bangladesh as in other low-resource settings: the misdiagnosis of functional seizures as epilepsy is extremely common in Bangladesh (estimated at 30 to 50 percent of new seizure presentations in some district hospitals), exposes patients to the side effects and stigma of antiepileptic treatment, and delays appropriate care. A careful diagnostic process, including appropriate use of EEG where available, and the explicit communication of the diagnosis of functional seizures to the patient and family, is essential.

125.4 Physical Rehabilitation in Functional Neurological Disorder

Physical therapy is a core component of the treatment of functional motor disorders, and its role is increasingly recognized in contemporary clinical guidelines. In functional weakness or paralysis, physical therapy that incorporates attention redirection techniques (focusing the patient's attention on the outcome of movement rather than on the movement itself), graded re-engagement with movement, and explicit education about the mechanism of functional symptoms can produce significant and lasting improvement in many patients.

The evidence base for physical rehabilitation in FND comes primarily from high-income settings, but the principles are applicable in Bangladesh with appropriate adaptation. In Bangladesh, where physiotherapy services are available only in major urban centers and are inaccessible to most patients with FND, the development of physical rehabilitation approaches that can be delivered by general health workers, family members, or the patients themselves, with appropriate guidance and supervision, is an important practical priority.

A 2024 study from neurological rehabilitation centers in South Asia found that a three-week intensive multidisciplinary rehabilitation program for FND (incorporating physiotherapy, occupational therapy, and psychological support) produced significant functional improvements in 70 percent of patients, with gains maintained at six-month follow-up. The feasibility of adapting such programs for the resource constraints of Bangladeshi hospitals deserves further investigation.

CHAPTER ONE HUNDRED AND TWENTY-SIX: PHILOSOPHICAL, ETHICAL, AND PUBLIC HEALTH PERSPECTIVES ON SOMATIC AND DISSOCIATIVE DISORDERS IN BANGLADESH

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126.1 The Philosophical Stakes: What These Conditions Reveal About Mind and Body

Somatic symptom disorders and dissociative disorders are not simply clinical curiosities or difficult management challenges. They are philosophically important in the deepest sense: they reveal, more vividly than almost any other clinical phenomena, what it means for mind and body to be one, and what happens when the normal integration of psychological and physical experience breaks down. They challenge dualist assumptions that have long distorted clinical practice, and they demand of clinicians a more sophisticated philosophical framework than biomedicine has traditionally provided.

The predictive processing account of somatic and functional symptoms, which has been developed in detail in this part, offers one such framework. It proposes that somatic experience is fundamentally a construction of the brain's predictive machinery, shaped by prior learning, by attention, by emotion, and by social and cultural context. On this account, there is no principled distinction between a symptom that is "real" (i.e., driven by peripheral tissue pathology) and one that is "functional" or "psychogenic" (i.e., generated by the brain's predictive processes without corresponding peripheral pathology). Both are generated by the brain; the difference lies in the primary driver of the brain's predictions, not in the phenomenological reality of the resulting experience.

This account has important implications for how we think about the authenticity of somatic symptoms. The patient with somatic symptom disorder, or with functional neurological disorder, or with a possession state, is not feigning, not exaggerating, and not choosing to experience their symptoms. They are experiencing genuine suffering generated by genuine neurological processes. The moral imperative to take their suffering seriously, to investigate it appropriately, and to treat it effectively is no less pressing than the moral imperative to take seriously the suffering of a patient with cancer or heart disease.

The philosophical framework also has implications for how we think about the relationship between suffering and social conditions. Somatic symptom disorders do not arise in a social vacuum: they are generated, shaped, and maintained by social conditions including poverty, violence, inequality, and the absence of safe contexts for the expression of psychological distress. Addressing these conditions requires not only clinical intervention but social and political action. The public health approach to somatic symptom disorders, which sees them as a social as much as a medical problem, is philosophically coherent with the account of their neurobiology given above.

126.2 Ethical Dimensions: Dignity, Authenticity, and the Right to Care

The ethical challenges posed by somatic and dissociative disorders in Bangladesh are real and pressing. Several deserve explicit examination.

The right to appropriate care is the most fundamental ethical issue. Patients with somatic symptom disorder and functional neurological disorder are routinely subjected to unnecessary and sometimes harmful investigations, receive inadequate explanation of their diagnosis, and are treated with less clinical attention and less therapeutic investment than patients with clearly

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organic conditions. This differential treatment represents a form of discrimination that is ethically indefensible and practically harmful. Every patient with a somatic or dissociative disorder has the same right to accurate diagnosis, clear explanation, and effective treatment as any other patient.

The question of how to communicate a diagnosis of somatic symptom disorder or functional neurological disorder without causing harm or stigma is an ethical challenge with practical dimensions. The old terminology (hysteria, psychosomatic, medically unexplained) is inherently stigmatizing, implying that the person's symptoms are imaginary or self-generated. The new terminology (somatic symptom disorder, functional neurological disorder, bodily distress disorder) offers an opportunity to communicate the diagnosis in a more neutral and accurate way, but only if clinicians have the skill and the time to explain what the terminology means and why it is not stigmatizing. In the time-pressured environments of Bangladeshi hospitals and clinics, this explanation is rarely given adequately.

The ethics of traditional healing engagement present their own challenges. Respecting patient autonomy requires that clinicians respect the patient's and family's choices about help-seeking, even if those choices involve traditional healers whose practices differ from those of evidence-based medicine. At the same time, clinicians have a duty to protect patients from serious harm, including the physical harm that can occur in some traditional healing settings. Navigating this tension requires clinical judgment, cultural competency, and a commitment to honest and transparent communication with patients and families.

126.3 Public Health Analysis: The Burden, the Gap, and the Response

The public health burden of somatic symptom and dissociative disorders in Bangladesh is massive but poorly quantified. The treatment gap for these conditions is, if anything, even larger than the treatment gap for clearly recognized psychiatric conditions such as depression and schizophrenia, because somatic and dissociative presentations are less likely to be recognized as psychiatric in nature and more likely to be managed (inappropriately and often expensively) within general medical services.

The economic burden of somatic symptom disorders in Bangladesh is particularly striking. Patients with these conditions are among the highest users of general medical services, accounting for a disproportionate share of outpatient consultations, laboratory investigations, and hospital admissions. A study of high-utilizing primary care patients in Bangladesh found that approximately 40 percent of patients in the top decile of health service use had a somatoform or related diagnosis. The cost implications of this pattern of use are substantial, and the evidence that appropriate psychiatric management reduces health care utilization in this group suggests that investment in psychiatric services for somatic conditions could be cost-effective.

The public health response to somatic symptom and dissociative disorders in Bangladesh requires action at several levels. At the primary care level, the integration of brief screening for somatic symptom disorder, illness anxiety disorder, and dissociative presentations into routine primary care assessment would allow more appropriate triage and referral. Training of primary

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care physicians in the recognition and initial management of these conditions, including basic psychoeducation and the prescription of low-dose antidepressants where appropriate, would improve care quality significantly. The mhGAP guidelines include some guidance on medically unexplained symptoms that could be adapted for the Bangladeshi primary care context.

At the specialist level, the development of integrated clinics that bring together psychiatrists, psychologists, physicians, and social workers to assess and treat patients with somatic and functional disorders would improve the quality and efficiency of care. These multidisciplinary approaches are standard in high-income countries and have been piloted in some low- and middle-income countries with promising results.

At the policy level, the explicit recognition of somatic symptom and dissociative disorders as priority conditions in the National Mental Health Strategic Plan, and the allocation of dedicated resources for their assessment and treatment, is essential. Currently, these conditions receive little explicit policy attention despite their enormous contribution to the overall burden of psychiatric morbidity.

CHAPTER ONE HUNDRED AND TWENTY-SEVEN: CONTROVERSIES IN SOMATIC AND DISSOCIATIVE PSYCHIATRY: A CRITICAL APPRAISAL

127.1 Is Chronic Fatigue Syndrome a Somatic Symptom Disorder?

Few questions in psychiatry have generated more controversy in recent years than the appropriate classification and management of chronic fatigue syndrome (CFS), also known as myalgic encephalomyelitis (ME) or ME/CFS. This controversy is directly relevant to Bangladesh, where a substantial number of patients present with the characteristic features of ME/CFS: profound fatigue that is not relieved by rest, post-exertional malaise (worsening of symptoms following physical or mental exertion), cognitive difficulties, sleep disturbance, and a range of somatic symptoms.

ME/CFS has been the subject of an intense and at times bitter dispute between those who regard it primarily as a psychosomatic condition, amenable to cognitive-behavioral and exercise-based treatment, and those who regard it primarily as a physical illness of uncertain mechanism, requiring physiological investigation and treatment and potentially harmed by exercise-based approaches. The publication of the PACE trial in 2011, which reported benefits of CBT and graded exercise therapy for CFS, was followed by intense scrutiny and criticism of its methodology, including retrospective changes to outcome measures, the use of self-reported rather than objective outcomes, and concerns about appropriate blinding and conflict of interest.

A 2024 Cochrane review, following a systematic reanalysis of the available evidence, concluded that graded exercise therapy may improve fatigue and global improvement outcomes, but expressed significant uncertainty about the quality of the evidence. Post-COVID syndrome, characterized by persistent symptoms following COVID-19 infection including fatigue, cognitive difficulties, and post-exertional malaise, has brought new scientific attention to ME/CFS-like

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presentations, with emerging evidence of immunological, microvascular, and neurological abnormalities in this population. This evidence has complicated the purely psychosomatic account of ME/CFS and has strengthened the case for physiological investigation alongside psychological treatment.

For Bangladesh, the practical implication of this ongoing controversy is that patients with chronic fatigue presentations should receive thorough medical evaluation to exclude treatable organic causes (including hypothyroidism, anemia, diabetes, hepatitis B and C, and TB), should not be subjected to graded exercise programs without careful assessment of their individual response, and should receive psychological support alongside any physical treatments. The specific population of patients with post-COVID syndrome is an emerging concern in Bangladesh following the COVID-19 pandemic, and clinical services for this group are currently lacking.

127.2 The Fibromyalgia Debate: Physical or Psychosomatic?

Fibromyalgia, characterized by widespread musculoskeletal pain, fatigue, sleep disturbance, and cognitive difficulties, occupies a similar contested position to ME/CFS at the intersection of physical and psychological medicine. A 2025 review in PAIN Reports examined the reclassification of fibromyalgia in the context of ICD-11, noting that the somatoform category had been eliminated in ICD-11 and replaced with bodily distress disorder, and that fibromyalgia itself is now coded within the chronic pain section of ICD-11 (under MG30) rather than as a psychiatric condition. This reclassification reflects the growing recognition that fibromyalgia involves genuine neurobiological abnormalities (including central sensitization, altered descending pain modulation, and neuroinflammatory changes) that place it outside the category of purely functional or psychosomatic conditions.

For Bangladeshi clinicians encountering patients with chronic widespread pain, the fibromyalgia controversy has practical implications: these patients should not be dismissed as having "only" a psychological problem, but should be offered an integrated assessment and management approach that addresses both the neurobiological dimensions of central sensitization and the psychological and social factors that contribute to and maintain their suffering.

127.3 The Recovered Memory Controversy and Its Contemporary Relevance

The recovered memory controversy of the 1980s and 1990s, while historically centered in North American clinical practice, has contemporary relevance for Bangladesh in at least two ways. First, as trauma-focused psychotherapies become more available in Bangladesh through the training of therapists in evidence-based approaches, the risk of iatrogenic memory creation through suggestive therapeutic practices is relevant and deserves attention in professional training and ethical guidelines. Second, the broader question of the relationship between traumatic memory, dissociation, and clinical practice in Bangladesh requires careful attention to the risks of both under-recognition (failure to acknowledge genuine traumatic experiences that are shaping current symptoms) and over-elaboration (contributing to the construction of trauma narratives that go beyond what the patient can genuinely recall).

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The current scientific consensus, as articulated in guidelines from the International Society for the Study of Trauma and Dissociation (ISSTD), is that memory is genuinely reconstructive and fallible, that trauma memories can be genuine but also subject to distortion and elaboration, that neither uncritical acceptance nor reflexive dismissal of reported trauma memories is appropriate, and that clinical practice should focus on the patient's current functioning and distress rather than on the verification of historical trauma narratives.

127.4 Medically Unexplained Symptoms: The Problems with the Label and What to Do About It

The label "medically unexplained symptoms" (MUS) has been widely used in primary care and general medical settings to describe presentations like those discussed in this part. While the label has some clinical utility as a way of identifying a common and distinct pattern of health service use, it has several serious problems that the move to ICD-11 and DSM-5 is attempting to address.

First, the label defines the condition by what it is not (unexplained by medicine) rather than by what it is, generating a category that is inherently unstable and that may gradually disappear as medical science advances. Second, it carries an implicit suggestion that the symptoms are less real or less legitimate than medically explained symptoms, contributing to stigma and to the feeling of many patients that they are not believed. Third, it groups together presentations with very different clinical features, trajectories, and treatment needs, reducing its clinical utility. Fourth, it obscures the positive features of the condition that define it in the new classification systems and that are relevant for treatment.

The transition from MUS to the new categories of somatic symptom disorder, bodily distress disorder, and functional neurological disorder represents a genuine improvement, though it will take time for the new terminology to become embedded in clinical practice in Bangladesh. Education of clinicians at all levels about the new categories, their rationale, and the communication strategies for explaining them to patients is a priority for professional education in Bangladesh.

CHAPTER ONE HUNDRED AND TWENTY-EIGHT: COMPREHENSIVE CASE STUDIES FOR PART NINE

Case Study 9.1: Functional Seizures in a Rural Adolescent Girl

Nasrin is a 16-year-old girl from a rural area of Jamalpur district. She is brought to the district hospital by her mother and an older brother following her third episode of sudden loss of consciousness accompanied by shaking movements of the limbs, arching of the back, and crying out. The episodes last approximately 15 to 20 minutes and are followed by crying and gradual recovery without confusion. The first episode occurred three months previously, on the day she received her Secondary School Certificate examination results.

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The family has previously consulted a village healer (ojha) who performed a ritual to remove a possessing spirit, and a local clinic physician who prescribed phenobarbital for suspected epilepsy. Despite the phenobarbital, the episodes have continued. Physical examination at the district hospital is normal. A history is taken carefully from Nasrin, who is initially reluctant to speak but gradually opens up during a private consultation without her family present.

Nasrin reports that she felt ashamed and afraid when she received her examination results, which were less than her family expected. She felt an overwhelming sense of dread and helplessness before the first episode. She also reveals that her uncle, who lives in the family compound, has been touching her inappropriately for the past year and a half, and that she has told no one about this. She describes feeling "not in my body" on several occasions and says she sometimes does not remember what happened during the episodes.

Assessment reveals features consistent with functional seizures: the episodes are prolonged, consciousness is partially preserved (Nasrin later has some memory of calling out during episodes), there is no post-ictal confusion, and there are identifiable psychosocial precipitants. A referral EEG request is made (acknowledging the limited availability of EEG in this setting). Screening with the PHQ-9 reveals a score of 17, consistent with moderate to severe depression. The clinical psychologist who interviews Nasrin separately documents trauma-related dissociative symptoms and ongoing exposure to sexual abuse.

The management of this case requires a carefully coordinated response that addresses multiple simultaneous clinical and safeguarding needs. The phenobarbital is discontinued (with tapering and explanation to the family). Safeguarding procedures are initiated in relation to the ongoing sexual abuse, in coordination with the available social services infrastructure (which is very limited in rural Bangladesh). Nasrin is started on a low dose of fluoxetine for depression (with monitoring for suicidal ideation given the trauma history). Family psychoeducation is provided, explaining the nature of functional seizures and making clear that they are not caused by epilepsy or by possession.

The longer-term management plan includes referral for trauma-focused therapy (which is available only in Dhaka), continued antidepressant treatment, school liaison, and ongoing social support. The legal and ethical dimensions of the abuse disclosure are managed in coordination with local authorities, recognizing the severe limitations of child protection services in this context.

This case illustrates several important themes of Part Nine: the complexity and multi-layered nature of functional neurological disorder presentations in Bangladesh; the role of trauma and ongoing adversity as maintaining factors; the challenge of managing these cases within the resource constraints of the district health system; and the ethical and safeguarding dimensions that arise when abuse is disclosed in the context of psychiatric assessment.

Case Study 9.2: Somatic Symptom Disorder in a Garment Worker

Rehana is a 32-year-old garment factory worker in Dhaka, unmarried, living with her sister's family in Mirpur. She presents to a primary health care center complaining of severe headache,

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chest tightness, weakness in her legs, difficulty breathing, and a persistent burning sensation in her abdomen. She has been attending multiple clinics for the past two years with these complaints. She has had a head CT scan, an ECG, spirometry, an upper GI endoscopy, multiple blood tests, and two ultrasound examinations, all of which have been normal or have shown only minor findings considered unlikely to account for her symptoms.

Rehana works 12-hour shifts six days a week, in a factory where she is under constant pressure to meet production targets. She has been a migrant from a rural area of Rangpur for eight years. Her parents arranged a marriage for her three years ago that she ultimately refused, creating lasting conflict with her family. She has not returned to Rangpur in over a year. She describes her living situation as lonely and says she often feels "empty inside" but attributes this to physical illness.

Assessment reveals a PHQ-9 score of 15 (moderately severe depression) and a GAD-7 score of 12 (moderate anxiety). The SSD-12 (administered using the Bangla version validated in the 2025 PLOS One study) yields a score of 34, consistent with somatic symptom disorder with high psychological severity. On direct questioning, Rehana acknowledges persistent worry about the seriousness of her symptoms ("I am afraid I have something no one has found yet"), spending several hours each day researching her symptoms online and talking to coworkers about them, and repeatedly seeking medical reassurance that provides only brief relief.

The management of Rehana's case begins with a therapeutic consultation that validates her suffering, explains her diagnosis in positive and non-stigmatizing terms, and provides a clear rationale for the treatment plan. She is told: "The tests show your organs are working, but the tests cannot show us what we can see in other ways: that your nervous system has become overactivated, almost like an alarm system that has become too sensitive. This happens when the body has been under sustained stress, and it generates real physical symptoms. The good news is that this condition is treatable." This framing is accepted by Rehana with some relief, though she remains somewhat skeptical.

Treatment includes: low-dose amitriptyline (initially 10 mg nightly, titrated to 25 mg) for depression, somatic symptoms, and sleep; scheduled follow-up appointments at regular two-weekly intervals (rather than symptom-contingent appointments, which reinforce health-seeking behavior); a graduated return to social activities outside work; a referral to a trained counselor for brief CBT-informed psychotherapy focused on the cognitive and behavioral maintaining factors; and active case management that coordinates care across the primary care physician and the mental health team.

At three-month follow-up, Rehana reports significant improvement in headache and sleep, partial improvement in other somatic symptoms, and a reduction in depression score (PHQ-9 score now 8). She has begun attending a women's support group organized by a local NGO, and she has re-established contact with her sister via video call. She continues to attend scheduled appointments and is gradually increasing her social engagement.

This case illustrates the effectiveness of an integrated, non-stigmatizing, psychoeducation-led approach to somatic symptom disorder in the Bangladeshi primary care context, and the

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importance of addressing the social determinants (loneliness, work stress, family conflict) as part of the treatment plan.

Case Study 9.3: Possession Episode in a Young Woman

Fatima is a 22-year-old woman from a coastal district of Bangladesh who comes to a district hospital emergency department accompanied by her husband and in-laws, in a state of apparent altered consciousness. She is speaking in a voice that her family describes as not her own, making demands that they cannot meet, and is periodically arching backward and crying out. The family reports that this is the second such episode in a month. The first episode resolved after a visit to a local fakir who performed ruqyah. The family is requesting admission so that a religious practitioner can perform more formal ruqyah in the hospital, and they are attributing the episode to possession by a jinn angered by the failure to fulfill certain ritual obligations.

Emergency examination finds that Fatima is partially responsive to her name, can follow simple commands when addressed directly, and has no neurological signs. Her vital signs are normal. She is sweating heavily and appears frightened. When examined away from family members, she calms rapidly and begins to speak normally, though she says she does not know what has been happening. She reveals that she has been deeply distressed since an argument with her in-laws two weeks before the first episode, and that she has been experiencing frightening and intrusive images and sensations since the news of a flood that destroyed her parents' home reached her last month.

Assessment reveals features consistent with possession trance disorder (ICD-11) and underlying PTSD (related to the recent flood news and its implications for her family), with significant comorbid anxiety. The clinical team's response involves several simultaneous considerations.

Respect for the family's explanatory model: The team engages with the family's account respectfully, acknowledging that the question of whether jinn can cause illness is a matter of sincere religious belief and is not for the medical team to adjudicate. The team communicates that they would like to investigate whether there is anything medical or psychiatric that can be helped alongside any spiritual interventions the family wishes to pursue.

Honest explanation of findings: The clinical findings are explained to Fatima and her family in terms they can accept: "We can see that Fatima has been through a great deal of stress recently, and that this stress is affecting her body and her mind. Sometimes when the mind is under great stress, it can produce these episodes. This is not a sign of weakness or fault; it is a response of the nervous system to overwhelming strain. We would like to offer Fatima some support for this stress."

Management includes: a quiet, calm environment with reduction of distressing stimuli; time alone with a female clinical psychologist for initial assessment and supportive interview; low-dose anxiolytic medication (lorazepam 0.5 mg) for acute distress (with explanation of limited duration of use); and a plan for outpatient follow-up with the psychiatric team.

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The family's request for ruqyah is not refused (recognizing that this is a religiously endorsed practice and that its performance in a calm clinical environment will not cause harm), but the clinical team makes clear that the ruqyah cannot substitute for ongoing psychiatric assessment and treatment.

At follow-up three weeks later, Fatima has had one brief episode that was managed without emergency intervention. She is engaged in supported psychotherapy addressing the stress of the flood, her relationship difficulties with in-laws, and her sense of helplessness. The team is working toward eventually facilitating a family session to address the interpersonal context.

Case Study 9.4: Illness Anxiety Disorder Following the Death of a Sibling

Mahmud is a 38-year-old male school teacher in Comilla who presents to a cardiology outpatient clinic with a six-month history of chest pain, palpitations, and a conviction that he has heart disease. He has already had two ECGs, an echocardiogram, and a 24-hour Holter monitor, all of which have been normal. The cardiologist refers him to psychiatry, noting that there is no cardiac basis for his symptoms.

Mahmud reports that his younger brother died of a sudden myocardial infarction eight months previously at the age of 36. Since his brother's death, Mahmud has been monitoring his own heartbeat multiple times daily, measuring his blood pressure at home three times daily, avoiding physical exertion out of fear that it will trigger a heart attack, and spending several hours each week reading about cardiac symptoms online. He has attended cardiology appointments seven times in eight months and sought emergency care twice when his symptoms intensified. He reports moderate depression (PHQ-9 score 13) and severe health anxiety (Health Anxiety Inventory score 48, in the severe range).

The management of Mahmud's case illustrates the principles of illness anxiety disorder treatment described above. The psychiatric assessment begins with a thorough exploration of Mahmud's experience of his brother's death and its impact: his grief, his guilt (he wonders if he could have recognized the warning signs), his identification with his brother (similar age, similar lifestyle), and his fear for his own children's welfare if he were to die.

Psychoeducation is provided about the grief process and the way that the death of someone close can sensitize people to perceived threats to their own health. The concept of health anxiety, as distinct from appropriate health concern, is explained. The maintaining role of the checking and reassurance-seeking behaviors is described clearly.

Treatment includes: six sessions of CBT with a trained psychologist, focusing on the maintaining behaviors and the underlying beliefs about heart disease, death, and the safety of stopping checking; supportive counseling that addresses the grief process; a scheduled-appointment system with the primary care physician that limits heart-related appointments to fortnightly intervals (initially) and gradually decreases their frequency; and a low-dose sertraline (50 mg daily) for depression.

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At six-month follow-up, Mahmud has substantially reduced his checking behavior, reports that he no longer measures his blood pressure at home (the home monitor has been stored away), has returned to moderate physical activity, and scores 21 on the Health Anxiety Inventory (a significant reduction from 48). He continues to have occasional concerns about his heart but is better able to contextualize them and to avoid the escalating anxiety cycle.

CHAPTER ONE HUNDRED AND TWENTY-NINE: INVESTIGATION PROTOCOLS FOR SOMATIC AND DISSOCIATIVE DISORDERS IN BANGLADESH

129.1 A Systematic Approach to Investigation

The investigation of somatic and dissociative presentations in Bangladesh requires a careful, systematic approach that balances the clinical need to exclude treatable organic conditions against the risks of over-investigation. A structured investigation protocol appropriate for the Bangladeshi context follows.

For all patients presenting with multiple unexplained somatic symptoms, the basic investigative panel should include: complete blood count, erythrocyte sedimentation rate, C-reactive protein, fasting blood glucose, serum creatinine and electrolytes, liver function tests, thyroid function tests (TSH is the initial screening test), urinalysis with microscopy, and a chest X-ray. This panel screens for the most common organic conditions that can present with non-specific somatic symptoms: anemia, thyroid dysfunction, renal disease, diabetes, hepatitis, and tuberculosis.

Additional investigations are guided by the specific clinical presentation. Patients with prominent chest pain should have an ECG and, if clinically indicated, echocardiography. Patients with prominent gastrointestinal symptoms should have stool examination for ova and parasites, and consideration of upper GI endoscopy if there are specific red flag features (dysphagia, unintentional weight loss, hematemesis, melaena). Patients with prominent neurological symptoms (weakness, seizures, sensory disturbance) should have a detailed neurological examination, and consideration of EEG and/or brain imaging if clinically indicated by specific features.

Red flag features that should prompt more extensive investigation include: constitutional symptoms (fever, unintentional weight loss, night sweats); objective evidence of organ dysfunction (abnormal laboratory tests, abnormal physical examination findings); age of onset over 50 (when the pre-test probability of organic disease is higher); neurological signs (reflex changes, focal sensory loss, signs inconsistent with functional disorder).

For patients with suspected dissociative disorders or functional neurological disorder, the investigation should include: EEG (where available) for patients with suspected functional seizures to exclude epilepsy; brain MRI for patients with functional neurological symptoms when clinical features do not clearly confirm the functional diagnosis; comprehensive psychological assessment using validated instruments (DES, PHQ-9, GAD-7, PCL-5).

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129.2 Avoiding the Investigation Trap

The "investigation trap" refers to the clinical pattern in which investigation of somatic symptoms generates anxiety that generates more investigations, in an escalating cycle that provides no clinical benefit while generating cost, iatrogenic risk, and reinforcement of the somatic attribution of symptoms. Breaking this cycle is one of the most important clinical tasks in managing patients with somatic symptom disorders.

The investigation trap is fed by several specific clinical practices: ordering investigations primarily to reassure the patient (rather than because the pre-test probability of an abnormal finding is clinically significant); ordering investigations in response to pressure from patients or families without adequate clinical justification; failing to communicate clearly that a negative investigation result reduces the probability of the investigated condition rather than eliminating it (so that the patient feels the investigation was inconclusive rather than reassuring); and ordering the same investigation repeatedly when previous results have been normal.

Avoiding the investigation trap requires explicit discussion with the patient about the rationale for investigation, the interpretation of results, and the limits of investigation as a strategy for achieving certainty. It requires a confident willingness to say to a patient: "We have investigated this thoroughly and the results tell us that the conditions we were looking for are not present. More investigation is unlikely to be helpful and may cause harm. I would like to discuss with you a different approach to understanding and managing your symptoms." This conversation is one of the most difficult in clinical medicine, and it requires both clinical skill and significant interpersonal sensitivity.

CHAPTER ONE HUNDRED AND THIRTY: SOMATIC AND DISSOCIATIVE DISORDERS ACROSS SPECIAL POPULATIONS IN BANGLADESH

130.1 Children and Adolescents

Somatic symptom presentations are extremely common in children and adolescents in Bangladesh, and they represent a major challenge for both pediatric and psychiatric services. In pediatric settings, recurrent abdominal pain, headache, fatigue, and non-epileptic episodes of altered consciousness are among the most common presentations to pediatric outpatient clinics. Studies from pediatric tertiary care settings in Bangladesh find that 15 to 25 percent of pediatric outpatient consultations involve symptoms that cannot be accounted for by identified physical pathology.

Childhood somatic presentations in Bangladesh are shaped by a distinctive set of risk factors. Family dysfunction, including marital conflict between parents, parental mental illness, and domestic violence, is one of the strongest risk factors for somatic symptom presentations in children. Academic pressure, particularly in the pre-examination periods, is a major precipitant of acute somatic episodes. The cultural norms that discourage emotional expression in

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Bangladeshi children, particularly among boys, channel psychological distress into somatic channels.

The management of childhood somatic presentations requires close collaboration between pediatricians and child mental health professionals (who are extremely scarce in Bangladesh) and between the clinical team and the family. Family-based approaches, which address the family dynamics that may be maintaining the somatic presentations, are essential. The involvement of school is also often necessary, particularly for children whose somatic presentations are associated with school-related anxiety or avoidance.

Functional non-epileptic seizures in adolescents deserve particular attention, as described in the case study of Nasrin above. The misdiagnosis of functional seizures as epilepsy is very common in the pediatric setting and leads to unnecessary antiepileptic medication, school restrictions, and social stigma that can profoundly affect the young person's development. Increased awareness among pediatricians of the clinical features of functional seizures, and improved access to video-EEG for equivocal cases, are important priorities.

130.2 Rohingya Refugees

The Rohingya refugee population in Cox's Bazar presents a particular and extreme challenge in the context of somatic and dissociative disorders. The population has been exposed to genocidal violence, mass sexual assault, and forced displacement, creating conditions of maximal psychological vulnerability. Somatic presentations are extremely common in humanitarian health settings in Cox's Bazar, and functional neurological disorder, possession states, and somatic symptom presentations have all been documented at high rates.

The management of these presentations in the humanitarian setting faces compounding challenges: the absence of trained mental health professionals who speak Rohingya or Burmese, the overwhelming scale of need relative to available resources, the political and legal insecurity of the refugee situation, and the trauma that many members of the community continue to experience in the refugee camps including violence, exploitation, and extreme overcrowding.

The humanitarian mental health response in Cox's Bazar has included the development of brief, scalable psychosocial support programs that can be delivered by trained community health workers, including Rohingya refugees themselves. These programs, drawing on principles of psychological first aid and brief structured interventions, have been delivered through health facilities, mobile health teams, and community-based programs. The specific adaptation of these programs for somatic and dissociative presentations is an ongoing area of development.

130.3 Elderly Persons

Somatic symptom presentations in elderly people in Bangladesh carry particular diagnostic complexity, because the elderly population has a genuinely higher prevalence of physical comorbidity and because the differential diagnosis of somatic symptoms in old age includes organic conditions that are particularly common in this age group. Depression in the elderly, which is very common in Bangladesh, frequently presents with predominantly somatic

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complaints rather than with the mood-based complaints that characterize depression in younger adults, reflecting both cultural norms about emotional expression and the tendency for depression in old age to cause physical symptoms (pain, fatigue, gastrointestinal disturbance) through neurobiological mechanisms.

The challenge for the clinician is to conduct a sufficiently thorough physical assessment to exclude treatable organic conditions without falling into the investigation trap, while simultaneously recognizing and treating the depression that underlies many somatic presentations in the elderly. A systematic approach to geriatric psychiatric assessment, using validated instruments (the Geriatric Depression Scale has been validated in Bangladesh), is an important component of the assessment of elderly patients with complex somatic presentations.

CHAPTER ONE HUNDRED AND THIRTY-ONE: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART TEN

131.1 Key Themes and Takeaways

Part Nine has traversed one of the most intellectually rich and clinically complex territories in all of psychiatry: the borderland between mind and body where somatic symptom disorders, dissociative disorders, and functional neurological conditions arise. Several key themes run through the entire part and deserve emphasis in conclusion.

The unity of mind and body is not a philosophical abstraction but a clinical reality with direct implications for every patient encountered in this territory. The brain generates somatic experience through predictive processes that are shaped by prior learning, attention, emotion, and cultural context. Symptoms that arise from these processes are as real as any other symptoms, and the patients who experience them deserve the same quality of care as patients with clearly organic conditions.

Cultural context is central, not peripheral, to the understanding and management of these conditions in Bangladesh. The specific forms taken by somatic and dissociative experiences in Bangladesh, including possession states, dhat syndrome, the somatic expression of psychological distress, and the cluster occurrence of functional episodes in socially stressed communities, are not simply different flavors of universal conditions. They are distinct clinical presentations that require culturally informed assessment and culturally adapted treatment.

The epidemiological burden is enormous and largely unaddressed. Somatic symptom and dissociative disorders account for a huge proportion of health service use in Bangladesh, generate enormous economic costs, and cause profound suffering to millions of people who are not receiving effective care. The treatment gap for these conditions may be even larger than the already appalling treatment gap for recognized psychiatric conditions.

The nosological revolution represented by DSM-5 and ICD-11 is an important intellectual advance, though its implementation in Bangladesh is still in early stages. The shift from the

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concept of medically unexplained symptoms to the positive characterization of somatic symptom disorder and bodily distress disorder, and the introduction of functional neurological disorder as a distinct and evidence-based entity, provide a more intellectually coherent and clinically useful framework for practice.

Evidence-based treatment exists and is effective. CBT for somatic symptom disorders and illness anxiety disorder, physical rehabilitation for functional neurological disorder, and phase-oriented trauma-focused therapy for dissociative disorders, all have evidence supporting their efficacy and all can be adapted for use in the Bangladeshi context. The challenge is to train sufficient therapists and to develop the service infrastructure that would allow these treatments to be delivered at the scale of need.

131.2 Connections to Part Ten

Part Ten of this textbook turns to the territory of feeding and eating disorders, sleep-wake disorders, and sexual dysfunction and sexual health disorders in Bangladesh. These topics connect to Part Nine in several important ways.

Eating disorders, while less prevalent in Bangladesh than in high-income Western settings, share with somatic symptom disorders the fundamental feature of a disturbed relationship between psychological experience and bodily function and perception. The theoretical frameworks of interoceptive processing and predictive coding that illuminate somatic symptom disorders are also relevant to the understanding of eating disorders, in which disturbances in the perception of body size and shape and in the experience of hunger, fullness, and bodily discomfort play central roles.

Sleep-wake disorders share with dissociative disorders the fundamental territory of altered states of consciousness and the relationship between waking and sleeping mentation. Hypnagogic and hypnopompic hallucinations, sleep paralysis, and narcolepsy-related cataplexy all involve temporary alterations of consciousness that can resemble dissociative states and that must be distinguished from them in clinical assessment.

Sexual dysfunction in Bangladesh, which is extremely common and extremely underreported, connects to both somatic symptom disorder (through the somatic idiom of dhat syndrome and related presentations) and to the broader territory of the mind-body borderland, in which psychological factors (including anxiety, depression, relationship difficulties, and cultural sexual shame) produce physiological consequences that are experienced as genuine physical dysfunction.

The connecting thread across all of these domains, and across the entire territory of Part Nine, is the fundamental insight that the division between mind and body that has organized Western medicine since Descartes is a conceptual artifact rather than a biological reality, and that the clinical consequences of abandoning it and embracing a genuinely integrated account of human experience are profound and positive.

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CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART NINE

Vignette 9.1: *A 28-year-old woman from Sylhet presents to a general practitioner with a two-year history of recurrent headaches, generalized body pain, fatigue, and abdominal bloating. She has had multiple negative investigations. She is a second wife in a polygamous household and describes ongoing conflict with her co-wife. Consider the assessment approach, the likely diagnosis, and the treatment plan. How would you communicate the diagnosis to her and her family?*

Vignette 9.2: *A 17-year-old male student presents to a psychiatrist after his family finds him unable to move his legs following a heated argument with his father about university entrance examination results. Examination finds features consistent with functional weakness. What clinical tests would help confirm this diagnosis? How would you explain the diagnosis to the patient and his father? What treatment would you recommend?*

Vignette 9.3: *A primary care physician in a district town reports that a group of 22 women in a garment factory have simultaneously experienced faintness, breathing difficulties, and nausea following a report that a worker smelled an unusual odor. Environmental investigation has been negative. The factory manager is asking for medical advice. How would you advise managing this episode? What longer-term measures would you recommend?*

Vignette 9.4: *A 45-year-old man presents complaining of weakness, fatigue, sadness, and reduced sexual function, which he attributes to loss of semen through nocturnal emissions over the past two years. He is increasingly reluctant to leave the house and has stopped working. How would you assess this patient? What diagnosis or diagnoses would you consider? How would you frame your management plan in a way that is culturally respectful?*

Vignette 9.5: *A 35-year-old woman is brought to a psychiatric outpatient clinic by her husband, who reports that she has had three possession episodes over the past month. During these episodes she speaks in the voice of what the family believes is a malevolent jinn. The patient, interviewed separately, reveals a history of sexual abuse by a family member that she has never disclosed before. How would you approach the assessment of this case? How would you navigate the relationship between the spiritual explanation offered by the family and the psychiatric assessment?*

STUDY QUESTIONS FOR PART NINE

1. *Describe the predictive processing framework for understanding somatic symptom disorders. How does this framework explain the persistence of somatic symptoms in the absence of peripheral tissue pathology? What are the therapeutic implications of this framework?*
2. *Compare and contrast the DSM-5 category of somatic symptom disorder with the ICD-11 category of bodily distress disorder. What are the main similarities and differences?*

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What are the clinical and public health implications of the shift from medically unexplained symptoms to these new categories in Bangladesh?

3. *What is functional neurological disorder? Describe the clinical signs that distinguish functional weakness from organic motor weakness. Explain the contemporary neuroscientific account of the mechanism of functional neurological disorder.*
4. *Discuss dhat syndrome as a culture-specific presentation in Bangladesh. How would you assess and manage a patient presenting with this complaint? How does the recognition of dhat syndrome in ICD-11 represent an advance in cross-cultural psychiatry?*
5. *Define dissociation and describe the spectrum of dissociative experiences from normal to pathological. How does ICD-11 approach the classification of possession trance disorder? Why is this classification particularly relevant for clinical practice in Bangladesh?*
6. *Discuss the ethical challenges involved in the management of possession states in Bangladesh. How should the clinician engage with the family's religious explanatory model? What are the limits of traditional healing approaches for possession states, and how should these limits be communicated?*
7. *Describe the phases of treatment for severe dissociative disorders. Why is a phased approach recommended, and what are the risks of proceeding to trauma processing before adequate stabilization?*
8. *Discuss mass psychogenic illness with reference to documented cases from Bangladesh. What are the public health principles for managing an episode of MPI? What social conditions in Bangladesh make such episodes likely?*
9. *How does allostatic load contribute to the development and perpetuation of somatic symptom disorders in Bangladesh? What social interventions would be relevant to reducing allostatic load in vulnerable populations?*
10. *A patient with somatic symptom disorder refuses psychiatric referral, insisting that her problems are physical. How would you manage this situation? What communication strategies might help engage this patient with appropriate care?*

FURTHER READING FOR PART NINE

Foundational Texts and Reviews

The World Psychiatry paper by Stone and colleagues (2024), titled "Functional neurological disorder: defying dualism," offers a concise and authoritative account of the contemporary understanding of FND and is an essential starting point for readers seeking an evidence-based framework for this condition. The shift from the conversion disorder model to the contemporary neuroscientific account is clearly articulated, and the implications for clinical practice are drawn out with precision.

For an accessible introduction to the predictive processing account of somatic symptoms, Karl Friston's publications on active inference and the Bayesian brain, while technically demanding, provide the intellectual foundations. Andy Clark's book "Surfing Uncertainty" (2016) offers a more accessible overview of the predictive processing framework.

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The Cochrane review of psychological therapies for somatic symptom disorders, updated in 2023, provides the most comprehensive overview of the evidence base for CBT and related interventions, with specific analysis of individual studies and their relevance to different clinical settings.

Bangladesh-Specific Sources

The PLOS One validation study of the SSD-12 in Bangladesh by Habib and Mozumder (2025) is the most current methodologically rigorous instrument development work for somatic symptom disorder in Bangladesh, and its findings on the prevalence and severity of somatic symptoms in both clinical and community samples provide essential epidemiological context.

The Bangladesh National Mental Health Survey 2019 report, published by the Bangladesh Bureau of Statistics in collaboration with the WHO, contains the most comprehensive population-level data on mental disorders including somatoform and related conditions in Bangladesh.

The systematic reviews and qualitative studies of help-seeking behavior for mental health problems in Bangladesh, including those published in BMC Psychiatry, the Lancet Psychiatry, and the International Journal of Mental Health Systems, provide important context for understanding the pathways through which patients with somatic and dissociative presentations reach (or fail to reach) appropriate care.

Cross-Cultural Perspectives

The 2025 review of dissociative disorders in India by Jayan, Kashyap, and Thippeswamy, published in the International Journal of Social Psychiatry, examines the cultural influences on the phenomenology and treatment of dissociation in a South Asian context directly comparable to Bangladesh. The discussion of the parallels between possession trance and dissociative identity disorder, and of the role of attachment in mediating the relationship between cultural practice and psychopathology, is particularly valuable.

The Arthur Kleinman anthology "The Illness Narratives," while published in 1988, remains a foundational text for the cross-cultural understanding of somatic symptom presentations and the concept of explanatory models. Reading this text alongside contemporary neuroscientific accounts of somatic symptoms illustrates both the progress that has been made and the dimensions of understanding that neuroscience alone cannot provide.

The work of Laurence Kirmayer on culturally diverse presentations of somatic symptoms, including his contributions to the DSM-5 cultural formulation interview and his papers on the social production of somatic distress, provides essential theoretical grounding for the culturally informed practice of somatic psychiatry in Bangladesh.

Therapeutic Resources

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The ISSTD Treatment Guidelines for Dissociative Identity Disorder, now in their third edition, provide the most comprehensive and evidence-informed guidance for the treatment of complex dissociative disorders. While written for high-resource settings, the theoretical principles are applicable with appropriate adaptation in Bangladesh.

The WHO mhGAP Intervention Guide, available in Bangla translation, includes guidance on the assessment and management of medically unexplained somatic symptoms and on the recognition and initial management of dissociative presentations in non-specialist settings. While its guidance is necessarily simplified, it provides a practical starting point for the training of primary care practitioners in Bangladesh.

End of Part Nine

Editorial Note to Part Nine: *This part has drawn on the most recent available evidence from 2024 and 2025, including the landmark SSD-12 validation study in Bangladesh (PLOS One, January 2025), the World Psychiatry paper on functional neurological disorder (January 2024), the Expert Review of Neurotherapeutics paper on DID treatment (2024), the PAIN Reports review on fibromyalgia and ICD-11 (February 2025), and the broader international literature on somatic symptom disorders and dissociative conditions. The clinical protocols and case studies have been developed specifically for the Bangladeshi clinical context. Readers are encouraged to supplement this text with current clinical guidelines from the Bangladesh College of Physicians and Surgeons and with the WHO mhGAP guidance materials, which continue to be updated as new evidence emerges.*

PART TEN: FEEDING AND EATING DISORDERS, SLEEP-WAKE DISORDERS, AND SEXUAL DYSFUNCTION AND SEXUAL HEALTH IN BANGLADESH

Clinical Science, Neurobiology, Cultural Context, and Practice in Bangladesh

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INTRODUCTORY NOTE TO PART TEN

There is a particular kind of clinical challenge that arises when the territory of psychiatry reaches into domains of bodily life that are simultaneously intensely personal, deeply cultural, biologically fundamental, and profoundly stigmatized. Part Ten of this textbook enters precisely that territory. The three domains it covers, feeding and eating, sleep and wakefulness, and sexual life, share a remarkable cluster of characteristics that make them among the most clinically demanding and intellectually fascinating areas of psychiatric practice.

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Each domain involves the intersection of biological drives that are among the most ancient in evolutionary history and cultural meanings that are among the most variable across human societies. Each involves bodily functions that are simultaneously automatic and volitional, shaped by both limbic imperatives and cortical interpretation. Each is subject to profound social regulation: norms about how much to eat, what constitutes an appropriate body shape, when and how long to sleep, and what is permissible in sexual life vary enormously across societies and across historical periods, and the violation of these norms generates shame, stigma, and suffering that is inseparable from the biological dysfunction itself.

In Bangladesh, these domains carry particular significance. Eating disorders, once considered exclusively a Western phenomenon, are now recognized as present and likely growing in Bangladesh, shaped by the collision between traditional food culture and ideals of bodily attractiveness on one hand and the unprecedented social and media forces of rapid modernization on the other. Sleep disorders, which have received remarkably little clinical and research attention in Bangladesh despite their very high prevalence, represent a massive and largely invisible burden of suffering that connects intimately to depression, anxiety, chronic disease, occupational performance, and road safety. Sexual dysfunction and sexual health disorders are among the most underreported and underaddressed problems in the entire mental health landscape of Bangladesh, where cultural prohibitions against discussing sexuality openly have created an extraordinary gap between the scale of suffering and the availability of care.

This Part does not simply catalogue clinical syndromes. It investigates their philosophical foundations, their historical evolution, their neurobiological substrates, their social and cultural determinants, and their clinical and public health management with the same depth and critical engagement that has characterized the rest of this textbook. As in previous Parts, the Bangladesh perspective is not an afterthought but the organizing framework. The clinical realities of patients in Dhaka, Sylhet, Rangpur, and Cox's Bazar are as important here as the clinical trials conducted in New York, London, or Sydney.

CHAPTER ONE HUNDRED AND THIRTY-TWO: FEEDING AND EATING DISORDERS: HISTORICAL, PHILOSOPHICAL, AND NOSOLOGICAL FOUNDATIONS

132.1 The History of Disturbed Eating: From Medieval Fasting to Modern Anorexia

The history of what we now call eating disorders is considerably longer and more complex than any account that begins, as most clinical textbooks do, with the 19th-century medical descriptions by William Gull and Charles Lasegue. To understand eating disorders in their full depth, one must go back much further, and one must be willing to encounter the profound ways in which the meanings attributed to food, the body, and voluntary starvation have changed across time and culture.

Food is not merely nutrition. In every human society that has ever existed, food has been embedded in systems of meaning that extend far beyond its caloric content. Food is gift and refusal, purity and contamination, communion and exclusion, abundance and sacrifice. The act

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of not eating has, across many cultures and historical periods, carried spiritual meaning: fasting as purification, as penance, as discipline of the body in the service of the soul, as demonstration of transcendence over material need. The desert fathers of early Christianity, the Hindu tradition of upavasa, the Islamic practice of Ramadan, the Jewish fast of Yom Kippur, and the Jain practice of santhara (ritual fasting unto death as spiritual practice) all locate voluntary food restriction within a framework of spiritual aspiration. Understanding this history is not merely an intellectual exercise for the psychiatrist; it is essential for understanding why the cultural meaning of eating and not eating in any particular society shapes both the expression of eating disorders and the ways in which patients and their families interpret them.

What we recognize as anorexia nervosa appears in historical records considerably earlier than the medical literature typically acknowledges. The case of Catherine of Siena (1347-1380), the Italian Dominican mystic who eventually died of self-starvation in the context of intense religious devotion and spiritual aspiration, has been discussed by historians and psychiatrists as a possible example of what the historian Rudolph Bell called "holy anorexia" in his influential 1985 book. The anthropologist and psychiatrist Joan Jacobs Brumberg, in her remarkable historical study "Fasting Girls" (1988), traced the transformation of voluntary food restriction from a religious practice valued for its spiritual meaning into a medical pathology defined by its deviation from norms of healthy eating and appropriate body weight. This transformation, she argued, was not simply an advance in medical understanding but a change in the cultural framework through which extreme thinness and food refusal were interpreted. The shift from spiritual aspiration to psychiatric disorder was not simply a discovery of a previously unnamed disease; it was a re-interpretation of a behavioral pattern through a new cultural and medical lens.

In the context of Bengal and the Indian subcontinent, fasting has deep historical and cultural significance that is relevant to understanding eating disorders in Bangladesh. The practice of vrata (vowed fasting) in Hindu tradition, the practice of roja (fasting) in Islamic practice, and the various forms of food restriction associated with mourning, pollution taboos, and ritual purification have all been woven into the fabric of everyday life in Bengal for centuries. These cultural meanings of fasting coexist with, and sometimes complicate, the clinical recognition and management of pathological food restriction in contemporary Bangladesh.

The formal medical description of anorexia nervosa is attributed to two clinicians working independently in the 1870s: the English physician William Withey Gull, who coined the term "anorexia nervosa" in 1873 and described it as "a peculiar form of disease occurring mostly in young women and characterized by extreme emaciation," and the French physician Ernest-Charles Lasegue, who described what he called "anorexie hysterique" in the same period. Both physicians recognized that the food refusal they were describing was not explained by organic disease and involved a psychological component, though their theoretical frameworks for understanding it were quite different. Gull emphasized the neurological dimension, while Lasegue emphasized the interpersonal dynamics between the patient and her family, anticipating by nearly a century the family systems theorists of the mid-20th century.

Bulimia nervosa has a considerably shorter formal history, having been described as a distinct condition by Gerald Russell in his landmark 1979 paper, though episodes of binge eating and

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purging appear in earlier case descriptions and in cultural records from antiquity (the Roman vomitorium, while probably apocryphal as an institution for the purpose of purging after feasts, reflects an awareness of the practice). The recognition of bulimia nervosa as a distinct disorder, with its characteristic cycle of dietary restriction, binge eating, compensatory behavior, and intense shame, transformed the clinical landscape of eating disorders by demonstrating that severe pathology of eating could occur in people of normal body weight, greatly expanding the clinical recognition of the condition. The subsequent recognition of binge eating disorder, formally included in the DSM-5 in 2013, further extended the clinical reach of eating disorder psychiatry beyond the historically dominant focus on restriction and low weight.

Avoidant-restrictive food intake disorder (ARFID), one of the most significant new additions to the DSM-5 classification, represents a particularly important expansion of the eating disorder category. ARFID describes a condition of food avoidance or restriction that is not motivated by weight and shape concerns (as in anorexia nervosa) but by sensory features of food, fear of aversive consequences of eating such as choking or vomiting, or general lack of interest in eating. The recognition of ARFID has been particularly valuable for understanding eating difficulties in children, including children with autism spectrum disorder, and for clinical situations that were previously poorly served by existing categories. In Bangladesh, ARFID has relevance to the clinical management of children with developmental disorders and selective eating, as well as to the clinical presentation of some adults with extreme food selectivity rooted in childhood sensory sensitivities.

132.2 Philosophical Dimensions: The Body, Self, and Society

No account of eating disorders can escape the philosophical territory of the relationship between the body and the self, between biological drives and cultural meanings, and between individual pathology and social systems. These are not merely academic questions; they bear directly on how we understand the suffering of people with eating disorders and how we approach their treatment.

The dominant contemporary psychiatric account of anorexia nervosa frames it as a disorder of body image and cognition, characterized by distorted perception of one's own body size and shape, intense fear of gaining weight, and behaviors aimed at preventing weight gain. This account is accurate as a description of the phenomenology of the condition, but it brackets several important questions. Why do women develop anorexia nervosa far more commonly than men? Why do rates of eating disorders appear to be higher in societies with particular kinds of media environments and cultural ideals of thinness? Why do eating disorders cluster in particular cultural niches, and why have they apparently become more common in many parts of the world as those societies become more connected to global media? These questions cannot be answered by focusing on the individual's distorted cognitions alone; they require attention to the cultural matrix in which individual psychopathology is embedded.

The feminist analysis of eating disorders, developed by writers and clinicians including Susie Orbach ("Fat is a Feminist Issue," 1978), Naomi Wolf ("The Beauty Myth," 1990), Sandra Bartky, and Susan Bordo ("Unbearable Weight," 1993), argues that eating disorders are not simply individual pathologies but are the symptomatic expression of a cultural system that

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constrains women through the regulation of their bodies. On this account, the pressure to achieve a particular body shape, the constant surveillance and evaluation of women's bodies, the equation of thinness with virtue, self-control, and social worth, and the use of dieting as a form of bodily self-discipline all reflect and reinforce the subordination of women in patriarchal societies. This analysis does not deny the biological dimension of eating disorders, but it insists that the biological vulnerability that makes some individuals susceptible to anorexia or bulimia is activated, shaped, and directed by cultural forces that are themselves expressions of social power relations.

The feminist analysis has been enormously productive and has important implications for clinical practice and prevention in Bangladesh. It directs attention to the social and media environment as a target for prevention, to the ways in which gender norms in Bangladesh simultaneously create and obscure the risk of eating disorders, and to the possibility that the growing exposure of Bangladeshi women and girls to global media ideals of thinness through social media platforms is creating new vulnerabilities that were not present even a decade ago.

At the same time, the feminist analysis has limitations. It tends to focus on women and on conditions associated with thinness (anorexia nervosa and bulimia nervosa), with less attention to binge eating disorder, which affects men and women more equally and whose relationship to the cultural valorization of thinness is more complex. It can also oversimplify the relationship between cultural ideals and individual psychopathology, treating the cultural framework as a sufficient explanation for a condition whose pathophysiology is clearly also shaped by neurobiology and genetics.

The phenomenological tradition in psychiatry, represented by thinkers like Maurice Merleau-Ponty and Thomas Fuchs, offers a complementary framework that begins not from cultural analysis but from the lived experience of the person with an eating disorder. Merleau-Ponty's concept of the "body-subject," the idea that the body is not simply an object that the mind inhabits but is constitutive of the self and of one's engagement with the world, provides a rich framework for understanding the profound disturbances of bodily self-experience that characterize anorexia nervosa. For the person with severe anorexia, the experience of one's own body as grotesquely fat despite objective thinness is not simply a cognitive error but a profound disruption of the body-subject, a distortion of the fundamental experiential framework through which the person inhabits the world. This phenomenological dimension of eating disorders has important implications for treatment: simply correcting cognitive distortions may be insufficient if the underlying disruption of bodily self-experience has not been addressed.

132.3 Nosological Developments: ICD-11 and DSM-5-TR in Context

The classification of eating disorders has undergone significant revision in the most recent iterations of the two major international classification systems. Understanding these revisions is important not only for clinical practice but for understanding how the conceptual landscape of eating disorder psychiatry is changing.

The DSM-5, published in 2013, made several important changes to the classification of eating and feeding disorders. Most significantly, it created a single combined chapter on "Feeding and

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Eating Disorders," integrating conditions previously classified separately as childhood feeding disorders (including pica and rumination disorder) with the eating disorders that had previously been restricted to adult presentations. It added ARFID as a formal diagnosis, replacing the previous childhood category of "Feeding Disorder of Infancy and Early Childhood." It recognized binge eating disorder (BED) as a full diagnostic category (previously it had been in the appendix for conditions requiring further study). It removed the amenorrhea criterion from anorexia nervosa, recognizing that postmenopausal women, women using hormonal contraception, and males with the clinical syndrome could not meet a criterion that depended on the menstrual cycle. And it relaxed the frequency thresholds for bulimia nervosa and BED.

The DSM-5-TR, the text revision published in 2022, provided updated prevalence data, refined symptom descriptions, and incorporated new evidence on etiology, course, and treatment, but did not make major structural changes to the classification.

The ICD-11, published in 2019 and in the process of global adoption, took a somewhat different approach. It retained the core categories of anorexia nervosa, bulimia nervosa, binge eating disorder, and ARFID, but organized them within the chapter on "Feeding or Eating Disorders" alongside rumination-regurgitation disorder, pica, and "other specified feeding or eating disorders." One important difference from DSM-5 is that ICD-11 distinguishes between typical anorexia nervosa (meeting full criteria including significantly low body weight) and atypical anorexia nervosa (meeting all criteria except the low body weight criterion, a particularly important distinction for patients whose weight is objectively normal but who have been in significant restriction and who may be at serious medical risk).

The recognition in both DSM-5-TR and ICD-11 of a broader and more inclusive range of eating disorder presentations, including presentations at non-low body weight, presentations in males, and presentations in older adults and in non-Western populations, represents a significant advance in clinical understanding. It directly challenges the stereotype of the eating disorder patient as a white, young, thin woman from a high-income Western country, and opens clinical recognition to a much broader range of people whose eating disorder may have been missed under older, narrower criteria.

A 2024 systematic review and meta-analysis by Solmi and colleagues, published in World Psychiatry, examined outcomes in people with eating disorders across diagnostic categories. The review found that, contrary to some earlier pessimistic accounts of eating disorder prognosis, a substantial proportion of people with eating disorders do achieve remission, particularly with appropriate treatment. The mortality associated with anorexia nervosa, while among the highest of any psychiatric condition, appears to have declined somewhat with improvements in treatment. These findings have important implications for clinical management: therapeutic nihilism regarding eating disorders is not justified by the evidence.

CHAPTER ONE HUNDRED AND THIRTY-THREE: NEUROBIOLOGY OF EATING DISORDERS: FROM THE HYPOTHALAMUS TO THE SOCIAL BRAIN

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133.1 Homeostatic and Hedonic Eating: The Neural Architecture of Food Behavior

To understand the neurobiology of eating disorders, it is necessary first to understand the neural systems that regulate normal eating behavior. These systems are extraordinarily complex, involving the integration of signals from multiple brain regions, peripheral organs, and hormonal systems, and they have been shaped by millions of years of evolution in environments where food was scarce and the ability to eat efficiently, store energy, and regulate appetite precisely was a matter of survival.

The most fundamental level of eating regulation is the homeostatic system, centered on the hypothalamus. The hypothalamus receives information about current energy status from multiple sources: leptin (a hormone secreted by fat cells in proportion to fat mass, signaling energy surplus and suppressing appetite), ghrelin (a hormone secreted primarily by the stomach in proportion to energy deficit, stimulating appetite), insulin, glucose, and various gut hormones including peptide YY, glucagon-like peptide 1 (GLP-1), and cholecystokinin. This information is integrated in the arcuate nucleus of the hypothalamus, which contains two opposing neuronal populations: pro-opiomelanocortin (POMC) neurons, which suppress appetite and increase energy expenditure, and AgRP-NPY (agouti-related peptide and neuropeptide Y) neurons, which stimulate appetite and reduce energy expenditure. The balance between these two populations, modulated by hypothalamic peptides and peripheral signals, forms the foundation of energy homeostasis.

However, human food behavior is not determined by homeostatic signals alone. The enormous variety in human eating patterns, the prevalence of eating beyond caloric need in environments of food abundance, and the capacity for severe voluntary food restriction in the face of strong homeostatic drives all demonstrate that higher brain systems exert powerful modulation over hypothalamic homeostatic circuits. The hedonic eating system, centered on the mesolimbic dopamine pathway (the nucleus accumbens, ventral tegmental area, and their connections to the prefrontal cortex), assigns motivational value to food based on its sensory properties and its historical association with pleasure and reward. The prefrontal cortex, particularly the orbitofrontal cortex and ventromedial prefrontal cortex, integrates hedonic and homeostatic signals with cognitive evaluation of the consequences of eating, including anticipated social and emotional consequences. The insula plays a crucial role in interoception, the perception of the body's internal state, and is particularly important for the experience of hunger, fullness, and the sensory properties of food.

In eating disorders, these neural circuits are disturbed in ways that are beginning to be characterized through neuroimaging and neurophysiological research. In anorexia nervosa, functional imaging studies have demonstrated altered activity in reward circuits in response to food-related stimuli, with reduced activation of reward pathways that may reflect either a reduction in the rewarding value of food or, paradoxically, a rewarding quality to food restriction itself. The finding of altered insula activation in response to food stimuli in anorexia nervosa is consistent with the subjective disturbances of interoceptive awareness that are characteristic of the condition, including difficulty recognizing hunger and satiety signals.

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In bulimia nervosa and binge eating disorder, the neurobiology is somewhat different, with evidence of heightened reward system reactivity to food cues and impaired inhibitory control over food-seeking behavior, patterns that share some features with the neurobiology of substance use disorders. This parallel with addiction is not merely metaphorical; it reflects genuine overlap in the neural circuits involved in reward processing, impulsive behavior, and the loss of control over hedonic drives that characterizes both binge eating and addictive behavior.

Serotonin plays a particularly important role in the neurobiology of eating disorders. The serotonin system is involved in the regulation of mood, anxiety, impulse control, and satiety, and its dysregulation in eating disorders reflects the overlap between eating disorders and anxiety disorders, which is one of the most robust findings in the clinical epidemiology of the field. SSRIs have modest but real efficacy in bulimia nervosa, consistent with the role of serotonin in binge-purge cycles. The role of serotonin in anorexia nervosa is more complex: in the acute state, reduced food intake and body weight may actually normalize some aspects of serotonin function, potentially contributing to the reinforcing quality of restriction.

133.2 Genetics, Epigenetics, and the Heritable Dimensions of Eating Disorders

Eating disorders have a substantial heritable component. Twin studies have estimated heritability of anorexia nervosa at between 50 and 80 percent, comparable to the heritability of schizophrenia and bipolar disorder. The heritability of bulimia nervosa is estimated at around 55 to 65 percent, and that of binge eating disorder at around 40 to 60 percent. These figures indicate that genetics plays an important role in eating disorder risk, though no genetic architecture remotely sufficient to explain the full variance has been identified.

Genome-wide association studies (GWAS) of anorexia nervosa have identified several genetic loci associated with increased risk, and the most striking finding from these studies has been the overlap between the genetic architecture of anorexia nervosa and that of anxiety disorders, major depression, and obsessive-compulsive disorder on one hand, and metabolic traits (including body mass index and metabolic rate) on the other. This genetic overlap suggests that anorexia nervosa may in part represent the pathological expression of a genetic profile that confers both metabolic efficiency (the capacity to sustain function at very low caloric intake) and psychological traits (anxiety, perfectionism, obsessionality) that in most environments are adaptive but under specific cultural pressures can combine to produce the self-starvation syndrome. This metabo-psychiatric conceptualization of anorexia nervosa, which has been increasingly articulated in recent years by researchers including Cynthia Bulik, represents a significant shift from purely psychological accounts and has important implications for treatment, particularly regarding the role of weight restoration and the management of metabolic complications.

Epigenetic mechanisms are also relevant to eating disorder biology. Starvation itself, as well as the anxiety and stress that accompany eating disorders, produces epigenetic changes in the regulation of genes involved in appetite, metabolism, and stress response. These epigenetic changes may contribute to the maintenance and perpetuation of eating disorder behaviors, and they represent potential therapeutic targets for future interventions.

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133.3 The Social Brain and Eating Disorders: Attachment, Emotion Regulation, and the Interpersonal Dimension

Eating disorders are fundamentally social and relational conditions, not only biological ones. The role of early attachment experiences, family dynamics, peer relationships, and the broader social environment in the development and maintenance of eating disorders is well established and is central to understanding both why eating disorders develop and how they are best treated.

Attachment theory provides a particularly productive framework for understanding the interpersonal dimension of eating disorders. People with eating disorders, particularly anorexia nervosa and bulimia nervosa, show high rates of insecure attachment patterns in standardized assessments. The relationship between insecure attachment and eating disorders is mediated partly through difficulties in emotion regulation: people with insecure attachment histories often have difficulty tolerating negative emotional states and may use food restriction, binge eating, or purging as ways of managing emotional distress, temporarily reducing the intolerable affective arousal that stems from interpersonal anxiety and emotional dysregulation.

The family systems perspective, developed by clinicians including Salvador Minuchin, who described the "psychosomatic family" characterized by enmeshment, overprotection, rigidity, and conflict avoidance, and by more recent researchers who have used observational methods to characterize family interaction patterns in eating disorders, emphasizes that eating disorder symptoms often serve interpersonal functions within the family system. Refusing to eat may represent an assertion of autonomy in an enmeshed family where other forms of self-assertion are blocked. Binge eating may represent an attempt to soothe attachment-related distress. Purging may represent a way of managing guilt about eating that has been conditioned through family messages about food, body, and self-worth.

This interpersonal understanding of eating disorders has practical implications for treatment. Family-based treatment (FBT), also known as the Maudsley Approach, which involves parents in the active management of their adolescent child's eating in the early phase of treatment, has become the most evidence-supported intervention for adolescent anorexia nervosa. The evidence for FBT has accumulated substantially, and a 2024 review in the Annual Review of Clinical Psychology confirmed it as the treatment of choice for adolescent anorexia nervosa. The theoretical rationale for FBT is not that family dysfunction causes eating disorders but that the family, once re-educated about the nature of the condition and empowered to take charge of renourishment, can be the most powerful agent of recovery for adolescent patients.

CHAPTER ONE HUNDRED AND THIRTY-FOUR: THE SPECTRUM OF EATING DISORDERS: CLINICAL SCIENCE AND CLASSIFICATION

134.1 Anorexia Nervosa: The Clinical Syndrome and Its Complexities

Anorexia nervosa is one of the most medically serious and clinically complex of all psychiatric conditions. Despite being less prevalent than depression, anxiety disorders, or substance use

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disorders, it carries the highest mortality rate of any psychiatric diagnosis, with a standardized mortality ratio estimated at approximately five to ten times that of age-matched general population samples. Death may occur from medical complications of severe malnutrition, from suicide, or from the interaction of both.

The diagnostic criteria for anorexia nervosa in DSM-5-TR and ICD-11 share three essential features. The first is restriction of energy intake relative to requirements, leading to significantly low body weight for age, sex, developmental trajectory, and physical health. The second is an intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain even at significantly low weight. The third is a disturbance in the way one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of one's current low body weight.

Several features of this clinical picture merit elaboration. First, the criterion of significantly low body weight is operationalized in DSM-5-TR as a body mass index (BMI) below 17.5 kg/m2 for adults, though the ICD-11 provides more nuanced guidance that takes into account age and developmental stage and recognizes that impairment of physical function may occur at different BMI thresholds in different individuals. The removal of the amenorrhea criterion from the DSM-5 was clinically important, as it extended recognition of the syndrome to males, to postmenopausal women, and to women using hormonal contraception, all of whom can present with the full clinical picture of anorexia nervosa without the possibility of amenorrhea.

Second, the body image disturbance at the core of anorexia nervosa is not simply a cognitive error that can be corrected by providing accurate feedback about body size. The experience of seeing one's emaciated body as fat, or of being unable to recognize the seriousness of one's low weight, represents a profound disruption of bodily self-perception that appears to involve genuine neurobiological abnormalities in the processing of body-related information. Neuroimaging studies have demonstrated altered activation in brain regions involved in body representation, including the superior parietal cortex, the extrastriate body area, and the insula, in people with anorexia nervosa. These abnormalities may contribute to the treatment resistance that characterizes severe and chronic anorexia nervosa.

Third, the distinction between the two subtypes of anorexia nervosa, restricting type (weight loss achieved primarily through dieting, fasting, or excessive exercise, without regular binge eating or purging) and binge eating/purging type (weight loss accompanied by regular episodes of binge eating or purging behaviors), has clinical importance for understanding associated medical complications, comorbid conditions, and treatment response. The binge-purge subtype of anorexia nervosa carries additional medical risks associated with the purging behaviors themselves and is associated with higher rates of impulsivity, emotional dysregulation, and comorbid personality disorders.

The medical complications of anorexia nervosa are extensive and can affect virtually every organ system. Cardiovascular complications, including bradycardia, hypotension, arrhythmias (particularly QT prolongation, which can be fatal), and structural cardiac changes, are among the most dangerous and require careful medical monitoring. Bone loss (osteopenia and osteoporosis) results from the combination of malnutrition, low estrogen levels, and elevated

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cortisol, and can occur rapidly in the early stages of the illness, with potentially permanent consequences for bone density. Electrolyte abnormalities, including hypokalemia and hypophosphatemia, are particularly dangerous and require monitoring during the early phases of refeeding. Refeeding syndrome, the potentially fatal metabolic complication that can occur during the early stages of nutritional rehabilitation if caloric intake is increased too rapidly, is characterized by a sudden shift of phosphate into cells, producing hypophosphatemia, cardiac arrhythmias, and neuromuscular dysfunction. Understanding and preventing refeeding syndrome is one of the most important clinical skills in the management of severe anorexia nervosa.

In the context of Bangladesh, the clinical recognition of anorexia nervosa presents particular challenges. The concept of intentional food restriction for the purpose of weight loss, driven by a fear of fatness and a desire for a thin body, may seem culturally alien in a society where a substantial proportion of the population has historically faced food insecurity, and where traditional cultural ideals of female attractiveness have tended to emphasize a moderate degree of plumpness rather than extreme thinness. However, this cultural landscape is changing rapidly, particularly in urban areas, under the influence of global media ideals transmitted through social media, television, and advertising. The 2025 narrative review by Al Banna, Kundu, and Arafat, the most comprehensive review of eating disorders research in Bangladesh to date, found that the risk of eating disorders among Bangladeshi university students varied between 20.4 and 38 percent across studies using the Eating Attitudes Test-26, suggesting that disordered eating attitudes are far more prevalent than clinical recognition would suggest.

134.2 Bulimia Nervosa: The Hidden Disorder

Bulimia nervosa differs from anorexia nervosa in several clinically important respects. Most fundamentally, people with bulimia nervosa typically maintain a body weight within or above the normal range, which means the condition is invisible from the outside and is frequently unrecognized, both by the person themselves and by health professionals. This invisibility contributes to the enormous underdiagnosis and treatment gap for bulimia nervosa globally and is particularly pronounced in settings like Bangladesh where the concept of a normal-weight person having a serious eating disorder is not well understood.

The defining clinical features of bulimia nervosa are recurrent episodes of binge eating, defined as eating an objectively large amount of food within a discrete period of time with a sense of loss of control; recurrent inappropriate compensatory behaviors to prevent weight gain, most commonly self-induced vomiting (purging type) but also excessive exercise, fasting, or laxative misuse (non-purging type); and the undue influence of body weight and shape on self-evaluation. The DSM-5 criterion requires these behaviors to occur at least once per week for three months. The ICD-11 uses broadly similar criteria.

The medical complications of bulimia nervosa, while generally less immediately life-threatening than those of severe anorexia nervosa, are nonetheless clinically significant. Regular self-induced vomiting causes characteristic dental erosion from repeated acid exposure, parotid gland enlargement (producing the chipmunk-cheeked appearance sometimes noted on clinical examination), Russell's sign (calluses on the dorsum of the hand from repeated contact with the teeth during vomiting induction), and electrolyte abnormalities including hypokalemia and

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metabolic alkalosis. Laxative abuse causes distinctive electrolyte disturbances and can cause serious gastrointestinal complications. Cardiac arrhythmias secondary to electrolyte disturbances are the most dangerous medical complication.

The psychological profile of bulimia nervosa typically includes intense shame and secrecy about the binge-purge cycle, perfectionism, low self-esteem closely tied to body weight and shape, impulsivity (which may extend beyond eating to other domains including alcohol use, self-harm, and risky sexual behavior), and significant comorbid depression and anxiety. Many people with bulimia nervosa have a history of anorexia nervosa: the diagnostic crossover between anorexia and bulimia nervosa over the illness course is common.

In Bangladesh, the cultural context for bulimia nervosa requires careful consideration. The secrecy and shame that surround the binge-purge cycle in Western contexts would be intensified in a Bangladeshi cultural environment where discussion of bodily functions is generally less acceptable, where mental illness carries intense stigma, and where food plays a central social and emotional role. The binge food typically consumed in bulimia nervosa episodes in Western contexts (highly processed, high-calorie foods) may differ in Bangladesh, where the accessible "comfort foods" available for binge episodes would include local sweets, rice-based dishes, and street foods. The specific pattern of binge-purge behavior in Bangladeshi patients has not been systematically studied, but clinical experience suggests that the pattern does occur and that it is significantly underreported and undertreated.

134.3 Binge Eating Disorder: The Most Prevalent of the Three Core Eating Disorders

Binge eating disorder (BED) became a formal DSM-5 diagnosis in 2013, after languishing for two decades in the appendix as a condition requiring further study. This recognition was justified: BED is now understood to be the most prevalent of the three major eating disorders, with a lifetime prevalence estimated at approximately 2 to 3.5 percent in the general population, compared to approximately 0.3 to 0.9 percent for anorexia nervosa and 1 to 1.5 percent for bulimia nervosa. Importantly, BED affects men and women more equally than the other eating disorders, with approximately 40 percent of those with BED being male in population-based studies.

The diagnostic criteria for BED center on recurrent episodes of binge eating, characterized by eating an objectively large amount of food within a discrete period with a sense of loss of control, occurring at least once per week for three months, and associated with marked distress. Critically, BED does not involve regular compensatory behaviors: the binges are not followed by vomiting, laxative use, or excessive exercise in the compensatory pattern that characterizes bulimia nervosa. The person with BED typically feels profound shame, disgust, and depression following binge episodes, but these feelings do not motivate compensatory behavior in the same way.

BED is closely associated with obesity, though the relationship is bidirectional and complex. Many people with obesity have BED, and many people with BED are overweight or obese. However, BED occurs at all weight ranges, and not all people with obesity have BED. The distinction between BED and "emotional eating" or "comfort eating" that does not meet the full

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diagnostic threshold is clinically important: BED involves a qualitatively different level of loss of control and subjective distress that goes beyond the normal use of food for emotional regulation.

The treatment of BED has an increasingly strong evidence base. Cognitive-behavioral therapy adapted for BED (CBT-ED) is the most evidence-supported psychological treatment. Interpersonal psychotherapy (IPT) has also demonstrated efficacy, consistent with the interpersonal precipitants of binge episodes that are commonly identified in clinical assessment. Dialectical behavior therapy (DBT), with its emphasis on emotion regulation skills, is particularly relevant for patients in whom binge eating is closely tied to difficulty tolerating negative emotional states. Pharmacological treatments, including lisdexamfetamine (the only FDA-approved pharmacological treatment for BED), SSRIs, and topiramate, have demonstrated efficacy in reducing binge frequency.

134.4 Avoidant-Restrictive Food Intake Disorder (ARFID): A New Paradigm for Food Avoidance

ARFID represents a fundamentally different clinical presentation from the weight and shape-focused eating disorders discussed above. In ARFID, food avoidance or restriction is not driven by fear of fatness or desire for thinness, but by one or more of three motivational patterns: sensory sensitivity (avoidance of specific textures, colors, smells, or tastes of foods), fear of aversive consequences of eating (such as choking, vomiting, or allergic reaction), or general lack of interest in eating or food.

The clinical consequences of ARFID are significant and include significant weight loss or failure to achieve expected weight gain in children, significant nutritional deficiency, dependence on enteral feeding or oral nutritional supplements, and marked interference with psychosocial functioning. ARFID can occur at any age, though it is most commonly identified in children and adolescents. It has particularly high rates of comorbidity with anxiety disorders, autism spectrum disorder, and ADHD.

In Bangladesh, ARFID is likely to present clinically in the pediatric setting, where children with extreme food selectivity, failure to thrive, and nutritional deficiency are evaluated. The overlap between ARFID and autism spectrum disorder is clinically important in the Bangladeshi context, given the substantial prevalence of ASD in Bangladesh and the very limited awareness of and services for ASD among clinical teams in most settings. The possibility that a child's extreme food selectivity reflects ARFID on a background of ASD, rather than simply "fussy eating," inadequate parenting, or organic medical disease, should be considered in the assessment of children with these presentations.

134.5 Other Specified Feeding and Eating Disorders and the Continuum Model

The category of "other specified feeding or eating disorders" (OSFED in DSM-5-TR; ICD-11 uses similar residual categories) encompasses presentations that cause significant clinical distress or impairment but do not meet full criteria for any of the above categories. Clinically important OSFED presentations include atypical anorexia nervosa (all criteria for anorexia nervosa met, but weight is not significantly below expected range despite significant weight

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loss), subthreshold bulimia nervosa or BED (full criteria except for frequency or duration), purging disorder (recurrent purging without binge eating), and night eating syndrome (recurrent episodes of eating after awakening from sleep or excessive food consumption after the evening meal).

The recognition of atypical anorexia nervosa as a clinically significant presentation is particularly important. Patients with atypical anorexia nervosa may have lost 20, 30, or even 40 kilograms from a previously higher weight and may have serious medical complications and the full psychological syndrome of anorexia nervosa, but their BMI remains technically within the normal range. They are at risk of being dismissed as not having a "real" eating disorder and of being denied the intensive treatment they need. Research has shown that people with atypical anorexia nervosa have medical complications comparable in severity to those of typical anorexia nervosa, and their psychological distress and functional impairment are equally severe. Recognition of this condition is critically important for ensuring appropriate clinical response.

CHAPTER ONE HUNDRED AND THIRTY-FIVE: EATING DISORDERS IN BANGLADESH: EPIDEMIOLOGY, CULTURAL CONTEXT, AND CLINICAL REALITIES

135.1 The Emerging Epidemiology of Eating Disorders in Bangladesh

Until the last decade, eating disorders in Bangladesh were largely invisible in the clinical and research literature, reflecting both genuine under-recognition and the assumption, common in international literature, that eating disorders were primarily Western conditions unlikely to occur in low-income South Asian settings. This assumption is now clearly untenable. The 2025 narrative review by Al Banna, Kundu, and Arafat, which systematically reviewed the available Bangladeshi literature, found ten studies examining eating disorder risk in Bangladesh, all conducted among university students. The rate of risk of eating disorders across these studies varied between 20.4 and 38 percent, with an average that substantially exceeds rates reported from many Western university populations.

These figures must be interpreted with several important caveats. All available studies have been conducted in university student populations, which are not representative of the general Bangladeshi population; university students are likely to represent a group with elevated exposure to media ideals of thinness, to the social pressures of peer comparison, and to the particular stresses of academic competition. The instruments used (primarily the Eating Attitudes Test-26) are screening tools that identify "at-risk" individuals rather than established clinical cases, and the correlation between screening tool scores and clinical diagnoses of eating disorders in Bangladeshi populations has not been rigorously established.

Nevertheless, these data are significant. They indicate that disordered eating attitudes and behaviors are far more prevalent among Bangladeshi young people than clinical recognition would suggest, and that the assumption of low eating disorder prevalence in Bangladesh is almost certainly incorrect. The factors associated with eating disorder risk in Bangladeshi studies include female sex, urban residence, private university attendance (which correlates with

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higher family income and greater exposure to social media), greater use of the internet and social media, comorbid anxiety and depression, and higher engagement with global media content. The association with social media use is consistent with the substantial international literature on the role of social comparison and idealized body image in the development of eating disorder risk.

The global burden of eating disorders analysis from 1990 to 2021 and projection to 2035, published in Frontiers in Nutrition in 2025, documents a consistent upward trend in the global burden of eating disorders, particularly in rapidly urbanizing and economically developing countries. Bangladesh, with its extraordinarily rapid urbanization, its massive expansion of mobile internet access, and its young population highly engaged with social media, fits the profile of a country likely to see significant increases in eating disorder burden in coming decades.

135.2 Cultural Factors in the Expression and Recognition of Eating Disorders in Bangladesh

The cultural dimensions of eating disorders in Bangladesh are complex and require careful analysis. Several features of Bangladeshi culture interact with eating disorder risk in ways that both shape the expression of these conditions and create barriers to their recognition and treatment.

Food and eating occupy a particularly central place in Bangladeshi cultural life. The tradition of hospitality centered on elaborate meal preparation and generous feeding of guests, the central role of food in family relationships and celebrations, the deep social significance of the act of eating together, and the cultural associations between ample body weight and prosperity, health, and fertility all mean that the deliberate restriction of food intake or the performance of food rituals that disrupt family eating patterns will be interpreted through a cultural lens very different from that operating in most Western contexts. A young woman who refuses family meals, eats very small portions, or comments obsessively about fatness will typically be understood first through cultural frameworks (rebellion, disrespect, spirit possession, physical illness) rather than through an eating disorder framework.

At the same time, several features of contemporary Bangladeshi society are creating new vulnerabilities to the kinds of eating disorder pathology more familiar from Western settings. The explosive growth of social media, particularly Facebook, Instagram, TikTok, and YouTube, has exposed Bangladeshi young people to global media ideals of thinness and beauty that may conflict sharply with traditional cultural ideals. Beauty industry marketing of skin-lightening products, dietary supplements, and thinness-promoting content has grown dramatically in urban Bangladesh. The growth of a substantial middle class in Dhaka and other cities has created a social environment in which body shape is increasingly seen as a marker of social status and self-discipline, particularly for women.

The phenomenon of "globalization of eating disorder risk" was first articulated systematically by researchers including Anne Becker, who studied the emergence of eating disorders in Fiji following the introduction of television in the mid-1990s. Becker's research documented a dramatic increase in disordered eating attitudes and behaviors in young Fijian women following

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their exposure to Western television programming, suggesting that media exposure to idealized body images can rapidly transform the eating disorder risk landscape in societies previously considered protected by traditional cultural values. The parallel with Bangladesh is striking: the rapid expansion of social media access among Bangladeshi young people from the early 2010s onward represents an analogous exposure to global body ideals that may be driving the elevated eating disorder risk documented in recent university student studies.

The gender dynamics of eating disorder risk in Bangladesh require particular attention. While eating disorders affect people of all genders, in Bangladesh as globally they disproportionately affect women. The intersection of gender inequality, the social surveillance of women's bodies, the intense pressures associated with marriageability and dowry negotiations (in which a woman's physical appearance including body shape can influence her social and economic prospects), and the psychological consequences of IPV and sexual violence all create a specific vulnerability landscape for Bangladeshi women. The possibility that extreme dieting or binge-purge behavior might represent, in part, a response to the psychological consequences of gender-based violence is clinically important and should be considered in the assessment of every female patient presenting with eating disorder symptoms.

135.3 The Clinical Presentation of Eating Disorders in Bangladesh: What the Clinician Needs to Know

The clinical presentation of eating disorders in Bangladesh is shaped by cultural factors in ways that mean presenting features may differ from those described in Western clinical literature. Several points deserve emphasis.

First, body image disturbance in the Western sense, meaning a subjective experience of one's body as fat despite objective thinness, may be expressed differently by Bangladeshi patients. Rather than using the vocabulary of "feeling fat," which presupposes a cultural framework in which fatness is stigmatized and thinness is desired, Bangladeshi patients may express their concerns in terms of social shame, family honor, marriageability, or what might be described in Bengali as "labhan" (attractiveness or grace). The clinician needs to explore what the patient actually fears about their body and what meaning they attach to thinness or to eating, rather than assuming that standard Western eating disorder phenomenology applies directly.

Second, the secrecy and shame surrounding eating disorder behavior will be particularly intense in Bangladeshi cultural contexts where family reputation and collective honor are paramount. Patients may minimize their symptoms, present with somatic complaints rather than eating disorder symptoms, or present only when medical complications have become severe. The possibility that unexplained weight loss, electrolyte disturbances, dental erosion, or gastrointestinal complaints in a young woman might reflect an eating disorder should be considered in the differential diagnosis even when the patient does not volunteer eating disorder symptoms.

Third, the involvement of the family in the assessment and treatment of eating disorders in Bangladesh will be both more important and more complicated than in Western settings. The family is the primary social unit within which eating behavior is regulated and within which the

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eating disorder symptoms play out their interpersonal functions. Family involvement in assessment is essential. However, family dynamics may also be maintaining factors for the eating disorder, particularly in families with high levels of enmeshment, overprotection, or conflict about autonomy, and these dynamics need to be assessed alongside the individual patient's psychology.

Fourth, the medical assessment of patients with suspected eating disorders in Bangladesh needs to take into account the different baseline nutritional status of the population. In a setting where chronic undernutrition has historically been common, the interpretation of low body weight requires careful consideration of developmental and family factors. At the same time, the rapid nutrition transition occurring in Bangladesh, with increasing prevalence of overweight and obesity in urban populations, means that a patient with atypical anorexia nervosa may not have a conspicuously low body weight even while experiencing serious medical complications of their eating disorder behavior.

135.4 Case Study 132.1: Anorexia Nervosa in a Bangladeshi University Student

Nasreen is a 20-year-old woman who has come to Bangladesh from a district in Comilla to study at a private university in Dhaka. She is the eldest child of a lower-middle-income family, and her family has made considerable financial sacrifice to fund her education, which is explicitly intended to improve her marriage prospects and provide her with economic security. She has been at the university for 18 months.

She is referred to the university health clinic by her hostel room supervisor, who has become concerned about Nasreen's increasingly restricted eating, her spending long periods in the bathroom after meals, and her dramatic weight loss over the preceding six months. Nasreen presents reluctantly. She says she has been feeling "fine" and that her eating is "healthy," though she acknowledges she has "been watching what she eats" because her roommates were commenting that she had put on weight when she first arrived from Comilla.

Assessment reveals that Nasreen's current BMI is 15.2 kg/m2, down from an estimated 21 kg/m2 at the time of starting university. She endorses intense fear of weight gain, describes her body as "fat all over" when the clinician can see her prominent ribs and sunken cheeks, and acknowledges that her self-worth is almost entirely tied to her body weight and shape. She has been restricting her diet to small amounts of rice and dal, is exercising for two hours each morning at the campus gym, and has been losing weight progressively despite being initially pleased by the loss. Her menstrual periods, which were previously regular, have been absent for four months. She has been failing her academic work, which she attributes to difficulty concentrating, and she has been withdrawing from her social relationships.

On medical assessment she has bradycardia with a pulse rate of 48 beats per minute, hypotension with a blood pressure of 88/52 mmHg, and fine lanugo hair on her arms and trunk. Her electrolytes show hypokalemia and hypomagnesemia. Her ECG shows a prolonged QT interval.

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This case illustrates several important features of anorexia nervosa in the Bangladeshi context. The precipitating context of migration from a rural home to an urban university environment, with its new social comparisons and its heightened exposure to media ideals of thinness, is consistent with the risk factors identified in Bangladeshi eating disorder research. The involvement of peer comparison in the initiation of dietary restriction is typical. The secretiveness of the symptoms and the minimization of severity reflect both the general features of anorexia nervosa and the specific cultural factors that make disclosure of eating disorder symptoms particularly difficult in Bangladesh. The medical seriousness of the presentation, with bradycardia, electrolyte abnormalities, and QT prolongation, underscores the medical urgency of eating disorder management even in settings where specialty eating disorder services do not exist.

The management of Nasreen's case requires urgent medical stabilization, careful nutritional rehabilitation, individual psychological therapy addressing the core eating disorder cognitions and behaviors, family work to involve her family appropriately in her recovery, and attention to the academic and social factors that contributed to the onset of her illness.

135.5 Assessment and Investigation Protocols for Eating Disorders in Bangladesh

The clinical assessment of eating disorders in Bangladesh requires a structured approach that covers both the psychological and physical dimensions of the condition. Given the high risk of serious medical complications and the tendency for patients to minimize symptoms, thorough physical assessment is as important as psychological evaluation.

The psychological assessment should cover the nature and severity of eating disorder symptoms, including the degree of dietary restriction, the presence and frequency of binge eating and purging behaviors, the nature and intensity of body image disturbance, the degree of fear of weight gain, the impact on social and occupational functioning, and the patient's understanding of and attitude toward their condition. Standard self-report instruments including the Eating Disorder Examination Questionnaire (EDE-Q), the SCOFF questionnaire (a brief five-item screening tool), and the Eating Attitudes Test-26 (EAT-26) can be useful adjuncts to clinical interview, though their psychometric properties in Bangladeshi populations are not fully established. The EDE-Q has been validated in several South Asian settings and appears to perform adequately, though some item wording may require cultural adaptation.

The medical assessment should include vital signs (pulse, blood pressure, temperature), anthropometric measurements (weight, height, BMI, and trend over time), skin examination (for lanugo hair, Russell's sign, parotid enlargement, peripheral edema), cardiovascular examination, and a comprehensive set of laboratory investigations. The recommended laboratory panel includes full blood count (looking for leukopenia, anemia, and thrombocytopenia), serum electrolytes (sodium, potassium, chloride, bicarbonate, phosphate, magnesium), blood glucose, liver function tests, thyroid function tests, a bone biochemistry panel (calcium, phosphate, alkaline phosphatase, albumin), urine analysis, and an electrocardiogram (looking for bradycardia, QT prolongation, and arrhythmias). In cases where the eating disorder has been present for more than a year, bone density measurement by dual-energy X-ray

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absorptiometry (DEXA) should be considered, though this investigation may not be available in all settings in Bangladesh.

The MARSIPAN (Management of Really Sick Patients with Anorexia Nervosa) guidelines, developed in the United Kingdom and widely adopted internationally, provide practical thresholds for determining when a patient with anorexia nervosa requires inpatient medical management. Key thresholds include BMI below 13 kg/m2 (extreme danger), pulse below 40 beats per minute, blood pressure below 80/50 mmHg, or severe electrolyte abnormalities. In Bangladesh, these guidelines need to be adapted to the available levels of care: inpatient medical beds with adequate monitoring are available in district hospitals and above, but specialized eating disorder day programs or inpatient units do not exist. The practical approach in Bangladesh requires the development of local protocols for the medical management of severe eating disorders within general medical or pediatric wards, with psychiatric consultation and nutritional support provided by a multidisciplinary team where available.

135.6 Treatment of Eating Disorders in Bangladesh: Principles and Adaptations

The treatment of eating disorders in Bangladesh must be adapted to the resource realities of the health system while remaining grounded in the evidence base from international research. Several general principles guide this adaptation.

Medical stabilization takes absolute priority in severe cases. Weight restoration is the first priority in anorexia nervosa: the malnourished brain cannot engage effectively with psychological therapy, and many of the cognitive features of anorexia nervosa (including rigidity, concrete thinking, and difficulty with perspective-taking) improve substantially with nutritional rehabilitation. Caloric intake must be increased gradually to avoid refeeding syndrome, with careful monitoring of electrolytes, particularly phosphate, in the early stages of refeeding. Phosphate supplementation should be readily available and its use should be standard practice when initiating nutritional rehabilitation of severely malnourished patients. The Lancet Psychiatry 2024 guidelines on the treatment of anorexia nervosa emphasize that refeeding protocols should aim for gradual caloric increase of 200 to 300 calories every two to three days, with careful electrolyte monitoring, particularly in the first two weeks.

Psychological treatment is central to eating disorder recovery and should be initiated as soon as the patient is medically stable enough to engage. For adolescents, the most evidence-supported approach is family-based treatment (FBT). For adults, enhanced cognitive-behavioral therapy for eating disorders (CBT-E), developed by Christopher Fairburn and colleagues at the University of Oxford, is the most evidence-supported individual psychological treatment for bulimia nervosa and BED, and has also demonstrated efficacy in anorexia nervosa, particularly in outpatient settings for patients whose medical condition does not require hospitalization. The Maudsley Anorexia Nervosa Treatment for Adults (MANTRA) and specialist supportive clinical management (SSCM) are additional evidence-supported approaches for adult anorexia nervosa.

The adaptation of these approaches to the Bangladeshi context requires attention to several factors: the central role of the family in decision-making and in the social context of the illness, the need for culturally appropriate explanatory frameworks that can help patients and families

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understand the condition without reference to Western concepts of body image that may not be culturally salient, the practical need to deliver therapy in settings where individual therapy is difficult to sustain over many months due to costs and access, and the potential role of task-shared, simplified interventions delivered by trained non-specialist workers.

The pharmacological treatment of eating disorders in Bangladesh requires careful clinical judgment. No medication has proven efficacy for anorexia nervosa, and anxiolytics, antidepressants, and antipsychotics that are sometimes used must be approached with extreme caution given the cardiac risks associated with severely malnourished patients (QT prolongation and arrhythmias make many psychotropic medications dangerous at low body weights). For bulimia nervosa, fluoxetine at 60 mg per day has the strongest evidence base and is FDA-approved for this indication; this dosage is higher than that typically used for depression. SSRIs are also the most evidence-supported pharmacological treatment for BED. Lisdexamfetamine, the only FDA-approved medication for BED, is not available in Bangladesh, and its use as a stimulant medication would require careful clinical consideration in this context.

CHAPTER ONE HUNDRED AND THIRTY-SIX: PUBLIC HEALTH PERSPECTIVES ON EATING DISORDERS IN BANGLADESH

136.1 The Burden and the Gap

The public health burden of eating disorders in Bangladesh is difficult to quantify with precision given the absence of population-based clinical studies, but the available evidence suggests it is substantial. If the rate of eating disorder risk of approximately 25 to 30 percent among university students applies even partially to the approximately 4 million students currently enrolled in Bangladeshi universities, this suggests that hundreds of thousands of young Bangladeshis may be experiencing clinically significant disordered eating. The number experiencing actual clinical eating disorder diagnoses is smaller but still substantial.

The treatment gap for eating disorders in Bangladesh is almost complete. There are no specialist eating disorder services anywhere in the country. The great majority of psychiatrists and psychologists have received no specific training in eating disorder assessment and treatment. Nutritional support and dietary counseling that is appropriate for eating disorder management is not routinely available in clinical settings. This means that the vast majority of people with eating disorders in Bangladesh receive no appropriate care, and many receive care that may be actively harmful, including dietary advice that reinforces restriction in a patient with anorexia nervosa, or the dismissal of the eating disorder as a medical problem rather than a psychiatric one.

Prevention is likely to be a more feasible short-term public health strategy than treatment scale-up, given the resource constraints of the system. The evidence base for eating disorder prevention is strongest for media literacy programs that teach young people to critically evaluate idealized body images in social media and other media, for programs that promote body acceptance and challenge the cultural equation of thinness with health and worth, and for

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programs that strengthen emotion regulation skills and reduce the use of food restriction or binge eating as coping strategies for psychological distress. Several such programs have demonstrated efficacy in randomized trials in Western settings, and their adaptation for Bangladeshi school, university, and community contexts represents a practical and potentially high-impact public health investment.

136.2 Controversies in Eating Disorder Psychiatry

The field of eating disorder psychiatry has a number of significant ongoing controversies that bear on clinical practice and public health policy in Bangladesh.

The first is the controversy about whether eating disorders should be classified primarily as psychiatric disorders, as medical disorders of nutrition and metabolism, or as the psychopathological expression of specific cultural pressures. This is not merely a semantic question; it has implications for where services are located (in psychiatric facilities or in nutrition and general medical settings), who provides care (psychiatrists, general physicians, dietitians), and how conditions are explained to patients and families. In Bangladesh, where psychiatric stigma is intense and medical settings are more accessible and less stigmatized, there may be a practical argument for locating eating disorder services primarily in general medical settings, at least initially.

The second controversy concerns the concept of "food addiction" and its relevance to binge eating disorder. Some researchers have argued that highly processed, hyperpalatable foods produce neurobiological changes comparable to those produced by addictive substances, and that binge eating disorder may be better understood as a form of food addiction than as an eating disorder in the conventional sense. This debate has implications for treatment: addiction frameworks would suggest approaches like abstinence or strict behavioral control, while eating disorder frameworks emphasize normalized and flexible eating patterns. The evidence does not clearly support the food addiction model as a necessary conceptual framework for BED, and most clinical guidelines recommend against dietary restriction as a treatment for BED, precisely because restriction tends to precipitate binge episodes.

The third controversy concerns the appropriate treatment of anorexia nervosa in adults, specifically the question of when, if ever, "managed anorexia" (an approach that accepts ongoing eating disorder behaviors while focusing on quality of life and harm reduction in patients with severe and enduring anorexia nervosa) is an appropriate clinical strategy, versus ongoing pursuit of weight restoration. This is one of the most ethically complex issues in all of psychiatry. The concept of "terminal anorexia," proposed by Jennifer Gaudiani and colleagues, challenges the assumption that weight restoration must always be the goal of treatment and argues that, for a small number of patients with severe and enduring disease who have failed multiple evidence-based treatments, a palliative approach focused on quality of life may be ethically justified. This position remains controversial, but the debate it has generated has been important for the field.

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CHAPTER ONE HUNDRED AND THIRTY-SEVEN: SLEEP-WAKE DISORDERS: HISTORICAL, PHILOSOPHICAL, AND SCIENTIFIC FOUNDATIONS

137.1 Sleep as a Medical Frontier: Why Sleep Matters More Than We Thought

Sleep was, for most of the history of medicine, treated as a background condition of life rather than as a clinically important domain in its own right. Physicians advised patients to sleep adequately, and the consequences of sleep deprivation were recognized, but the mechanisms of sleep, the pathologies that afflict it, and its relationship to mental and physical health were poorly understood until the second half of the twentieth century.

The discovery of rapid eye movement (REM) sleep by Eugene Aserinsky and Nathaniel Kleitman at the University of Chicago in 1953 was a watershed moment in sleep science. It revealed that sleep was not a simple passive state of reduced consciousness but an organized and biologically active process, with distinct phases having different neurobiological characteristics and different functions. The subsequent decades of sleep research have transformed our understanding of sleep's role in health and disease, revealing its importance for memory consolidation, emotional regulation, immune function, metabolic regulation, cardiovascular health, and the clearance of metabolic waste from the brain through the glymphatic system.

The discovery of the glymphatic system by Maiken Nedergaard and colleagues, published in Science in 2013, was particularly striking. The glymphatic system is a waste clearance system in the brain that operates primarily during sleep, using cerebrospinal fluid to flush the interstitial space and remove metabolic waste products including amyloid-beta and tau, the proteins that accumulate in the brains of patients with Alzheimer's disease. This discovery provided a compelling mechanistic explanation for the long-observed association between sleep disruption and dementia risk, and established sleep as a critical brain maintenance function rather than a passive state.

The philosophical dimensions of sleep have fascinated thinkers from antiquity to the present. Aristotle wrote extensively on sleep, viewing it as a function of the nutritive soul that temporarily suspended the operation of the perceptive soul. The relationship between sleep and consciousness, between the waking and dreaming mind, and between voluntary control and biological automaticity in sleep raises deep philosophical questions about the nature of consciousness and personal identity that remain relevant to the clinical understanding of sleep disorders.

In the context of Bangladesh, sleep holds important cultural meanings. The regulation of sleep within the family, including co-sleeping patterns that are the norm in most Bangladeshi households, the social meanings of daytime sleep (the customary postprandial rest known as bhaat ghum in Bangladeshi culture), the relationship between religious practice and sleep (the early morning Fajr prayer and the Friday Jumu'ah prayer schedule both intersect with sleep timing), and the particular vulnerabilities of night-shift workers in the garment and manufacturing industries all create a distinctive social context for sleep health in Bangladesh.

137.2 The Neuroscience of Sleep: Architecture, Regulation, and Pathophysiology

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Normal adult human sleep follows a characteristic architecture, cycling through distinct stages in a predictable pattern across the night. The two major sleep states are non-REM (NREM) sleep and REM sleep. NREM sleep is further divided into three stages: N1 (light sleep, the transition between wakefulness and sleep), N2 (deeper sleep, characterized by sleep spindles and K-complexes on EEG, accounting for approximately 50 percent of total sleep time), and N3 (deep or slow-wave sleep, characterized by delta waves on EEG and the most restorative phase of sleep for bodily repair, growth hormone secretion, and memory consolidation). REM sleep, which typically begins about 90 minutes after sleep onset, is characterized by rapid eye movements, near-complete muscle atonia, and vivid dreaming, and it is during REM sleep that emotional memory processing and creative cognition are thought to occur.

A normal night of sleep for an adult consists of approximately four to six sleep cycles, each lasting approximately 90 minutes, with the proportion of slow-wave sleep greatest in the early part of the night and the proportion of REM sleep greatest in the later cycles. Total sleep need varies somewhat between individuals, but the consensus from experimental and epidemiological research is that most adults need between seven and nine hours of sleep per night, with shorter and longer sleep durations both associated with adverse health outcomes. The evidence that the association between short sleep and health outcomes is causal, rather than simply reflecting the fact that ill people sleep more or less than healthy people, has been strengthened by Mendelian randomization studies that use genetic variants associated with sleep duration to estimate causal effects.

Sleep regulation is governed by two interacting systems: the circadian system, which generates an approximately 24-hour rhythm of sleep-wake propensity driven by the suprachiasmatic nucleus (SCN) of the hypothalamus and synchronized by light exposure through the retinohypothalamic tract, and the homeostatic system, which generates a progressive increase in sleep pressure (driven by the accumulation of the somnogens adenosine and prostaglandin D2) during wakefulness that is discharged during sleep. The interaction of these two systems produces the characteristic pattern of daily sleep and wakefulness, and disruption of either system can produce sleep disorder.

The neurotransmitter systems involved in sleep regulation are multiple and overlapping. Norepinephrine (from the locus coeruleus), serotonin (from the raphe nuclei), acetylcholine (from the pedunculopontine and laterodorsal tegmental nuclei), histamine (from the tuberomammillary nucleus), and orexin/hypocretin (from the lateral hypothalamus) all promote wakefulness. GABA promotes sleep through inhibition of wake-promoting centers, and galanin and other inhibitory peptides in the ventrolateral preoptic area (VLPO) of the hypothalamus are particularly important for sleep initiation and maintenance. The discovery of the orexin/hypocretin system and its role in the consolidation of wakefulness, and the finding that narcolepsy with cataplexy is caused by selective loss of orexin-producing neurons in the lateral hypothalamus (an autoimmune process), represent one of the most important advances in sleep medicine of the past three decades.

The neurobiology of sleep disruption in psychiatric disorders is particularly important for the psychiatrist. Depression is associated with characteristic sleep abnormalities: prolonged sleep latency, reduced slow-wave sleep, shortened REM latency (REM sleep begins earlier in the night

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than normal), and increased REM density. These abnormalities suggest that REM sleep regulation is fundamentally disrupted in depression, and the fact that REM suppression (achieved through antidepressants, which reliably suppress REM sleep) is associated with antidepressant efficacy has suggested that REM sleep dysregulation may be mechanistically involved in the pathophysiology of depression. The bidirectional relationship between sleep disturbance and depression, in which each worsens the other, is one of the most clinically important relationships in all of psychiatry.

137.3 Classification of Sleep-Wake Disorders: ICD-11 and DSM-5-TR

The classification of sleep-wake disorders in both DSM-5-TR and ICD-11 reflects the extraordinary diversity of conditions that can disrupt sleep and wakefulness. The major categories include the following.

Insomnia disorder is defined by dissatisfaction with sleep quality or quantity, characterized by difficulty initiating sleep, difficulty maintaining sleep (including waking too early), or both, causing significant distress or daytime functional impairment, occurring at least three nights per week for at least three months, not better explained by another condition. Insomnia is the most common of all sleep disorders, with a global prevalence of clinically significant insomnia estimated at 16.2 percent in a 2025 systematic review published in Sleep Medicine Reviews. The same review identified Bangladesh as one of the ten countries with the highest estimated prevalence of insomnia disorder globally, a finding consistent with the elevated rates of sleep problems documented in Bangladeshi population surveys during the COVID-19 pandemic and subsequently.

Hypersomnolence disorder is characterized by excessive sleepiness despite adequate sleep, causing significant distress or functional impairment. Narcolepsy, discussed further below, is a specific form of hypersomnolence with its own neurobiology and treatment implications.

Narcolepsy is a chronic neurological sleep disorder characterized by excessive daytime sleepiness, cataplexy (sudden loss of muscle tone triggered by strong emotion, which is pathognomonic of narcolepsy type 1, associated with orexin deficiency), sleep paralysis, and hypnagogic or hypnopompic hallucinations. The discovery that narcolepsy with cataplexy is caused by autoimmune destruction of orexin-producing neurons, confirmed by low orexin-A levels in cerebrospinal fluid, represents one of the clearest examples of a psychiatric symptom (sleepiness, hallucinations, apparent paralysis) having a specific and well-characterized pathophysiology. This is clinically important in Bangladesh, where narcolepsy may present to a variety of clinicians and where the hallucinations and paralysis of narcolepsy may be interpreted through spiritual or psychiatric frameworks before the correct diagnosis is established.

Breathing-related sleep disorders, primarily obstructive sleep apnea (OSA) and central sleep apnea, are among the most medically important sleep disorders. OSA, caused by repeated upper airway obstruction during sleep producing hypoxemia, arousal, and sleep fragmentation, is associated with hypertension, cardiovascular disease, type 2 diabetes, cognitive impairment, and depression. OSA is substantially underdiagnosed globally, including in Bangladesh, where awareness of the condition among clinicians and the public is limited and where

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polysomnography (the gold-standard diagnostic investigation) is available only in a very small number of centers.

Circadian rhythm sleep-wake disorders include delayed sleep-wake phase disorder (the most common, affecting adolescents and young adults who have difficulty sleeping and waking at socially expected times due to a phase-delayed circadian rhythm), advanced sleep-wake phase disorder, shift work sleep disorder, and jet lag disorder. Delayed sleep-wake phase disorder is particularly relevant to Bangladeshi adolescents and young adults, whose biological tendency toward later sleep timing (a universal feature of adolescent circadian biology) conflicts with early school start times and academic schedules.

The parasomnias, disorders of partial arousal from sleep, include non-REM parasomnias (sleepwalking, sleep terrors, confusional arousals) and REM sleep behavior disorder (RBD), in which the normal muscle atonia of REM sleep is absent and the person physically acts out dream content. RBD is particularly important clinically because it is often a prodrome of synucleinopathy, specifically Parkinson's disease and Lewy body dementia, and its identification provides an opportunity for neuroprotective intervention and early diagnosis.

Restless legs syndrome and periodic limb movement disorder are sleep disorders characterized by urges to move the legs, particularly at rest and in the evening, causing significant sleep disruption. These conditions are underrecognized in clinical practice worldwide and are almost unknown as clinical entities in the Bangladeshi context, despite being relatively common.

137.4 Insomnia: The Most Prevalent Sleep Disorder and Its Deep Implications

Insomnia disorder deserves extended discussion because of its extraordinary prevalence, its bidirectional relationship with virtually all psychiatric conditions, and its enormous impact on quality of life, occupational function, and physical health. It is, in a real sense, the common cold of psychiatry, but its consequences are far more serious than a common cold.

The cognitive model of insomnia, developed by Arthur Spielman and refined by Espie, Harvey, and others, proposes that insomnia is maintained by a characteristic pattern of cognitive and behavioral responses to the initial experience of poor sleep. When sleep is disturbed (by whatever initial cause, whether stress, illness, or a specific life event), the natural tendency is to spend more time in bed (to compensate for lost sleep), to worry about the consequences of poor sleep, and to be hypervigilant for signs of sleepiness and sleep-related threats. These responses, which seem entirely rational and adaptive in the short term, paradoxically perpetuate and worsen the insomnia. Spending more time in bed reduces the sleep pressure that drives sleep onset, creating a misalignment between time in bed and the ability to sleep. Worrying about sleep creates arousal that is incompatible with sleep. Hypervigilance for sleep-related cues produces conditioned arousal to sleep-related stimuli (the bed, the bedroom, bedtime routines) that becomes a primary maintaining factor for chronic insomnia.

This cognitive-behavioral model has two important clinical implications. First, it explains why insomnia often persists long after the original precipitant has resolved: the perpetuating cognitive and behavioral factors become self-sustaining in their own right. Second, it points

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directly toward cognitive-behavioral therapy for insomnia (CBT-I) as the most effective treatment, not only in the short term but in the long term. CBT-I has a strong and consistent evidence base that demonstrates its superiority over pharmacological treatment for chronic insomnia in both initial efficacy and long-term maintenance of improvement. The core components of CBT-I include sleep restriction (a paradoxical technique that initially limits time in bed to actual sleep time, concentrating sleep drive and improving sleep efficiency), stimulus control (re-establishing the association between bed and sleep by using the bed only for sleep and sex, not for waking activities), sleep hygiene education, relaxation techniques, and cognitive restructuring of unhelpful beliefs about sleep.

The neurobiological model of insomnia, complementing the cognitive-behavioral model, emphasizes the concept of "hyperarousal" as the central mechanism: people with chronic insomnia have elevated neural, autonomic, and cognitive arousal that prevents sleep onset and maintenance. The hyperarousal model is supported by evidence of elevated metabolic activity in wake-promoting brain regions during sleep in people with insomnia, elevated nighttime cortisol levels, elevated sympathetic nervous system activity, and the characteristic personality traits of perfectionism, worry proneness, and difficulty disengaging from cognitive activity that are common in people with insomnia disorder. This neurobiological substrate helps explain why simple behavioral interventions like sleep restriction are effective: they work partly by temporarily increasing sleep drive to a level sufficient to overcome the chronic hyperarousal.

137.5 Sleep Disorders in Bangladesh: The Epidemiology of an Invisible Burden

The epidemiology of sleep disorders in Bangladesh is gradually becoming clearer, though the evidence base remains limited and fragmented. The most striking finding from the available literature is that Bangladesh was identified by the 2025 ScienceDirect global insomnia analysis as having one of the highest estimated insomnia prevalence rates in the world, a finding consistent with the meta-analytic finding that the pooled prevalence of sleep problems in Bangladesh during and after the COVID-19 pandemic was approximately 45 percent in the general population, according to the systematic review and meta-analysis published in 2022.

A 2025 study published in Nature and Science of Sleep examined insomnia prevalence and associated factors in a sample of chronic disease patients in Bangladesh, collected between May and November 2024 in hospitals in Dhaka. This study is important because it documents the intersection of chronic disease and sleep disorder in the Bangladeshi population: insomnia was highly prevalent among patients with cardiovascular disease, diabetes, respiratory disorders, and other chronic conditions, and its severity was predicted by disease severity, pain, daytime napping habits, and psychiatric comorbidity. The study also explored the use of machine learning approaches to predict insomnia risk, demonstrating the feasibility of these methods in Bangladeshi clinical research.

A 2025 study of medical students in Bangladesh, published in Global Epidemiology in 2026, found high rates of poor sleep quality among medical students, with significant associations between poor sleep, psychological distress, and academic performance. The study documented sex differences in sleep quality, with female students more likely to report poor sleep, consistent with the global literature that shows higher rates of insomnia in women.

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A 2025 study published in BMC Public Health examined insomnia prevalence and associated factors among firefighting personnel in Dhaka division. This study found that nearly one quarter of firefighting staff experienced moderate to severe insomnia, with significant associations between insomnia, PTSD, workplace stress, and the number of rescue operations attended. This finding is clinically important because it documents the link between occupational trauma exposure, PTSD, and insomnia in a Bangladeshi occupational group, and highlights the need for occupational mental health programs that address sleep health in high-risk professions.

A protocol for a systematic review and meta-analysis of sleep problems among Bangladeshi physicians, published in BMJ Open in 2025, noted that reported rates of sleep problems among physicians in Bangladesh range from 32 to 58 percent, with physicians being particularly vulnerable compared to the general population. The review protocol highlighted that poor sleep among physicians in Bangladesh is strongly linked to burnout, medical errors, and increased mental health risks, and that existing evidence remains fragmented and inconsistent, calling for the kind of pooled analysis that the systematic review would provide.

137.6 Obstructive Sleep Apnea in Bangladesh: The Unrecognized Cardiovascular Threat

Obstructive sleep apnea (OSA) deserves particular attention in the Bangladeshi context because it is both highly prevalent in the general population (estimated globally at approximately 936 million adults with mild to severe OSA) and grossly underdiagnosed in Bangladesh. OSA occurs when the upper airway repeatedly collapses during sleep, causing cessation of breathing (apneas) or reduced breathing (hypopneas) that are terminated by brief arousals. The resulting sleep fragmentation causes excessive daytime sleepiness, cognitive impairment, and mood disturbance. The repeated episodes of hypoxemia and hypercapnia during apneas, and the associated sympathetic nervous system activation and hemodynamic changes, contribute to the strong association between OSA and hypertension, coronary artery disease, atrial fibrillation, stroke, and metabolic syndrome.

In Bangladesh, the rapid increases in obesity, hypertension, and type 2 diabetes that have accompanied economic development and the nutrition transition are creating conditions highly favorable for the development of OSA. Studies from India and other South Asian countries have found high OSA prevalence in middle-aged adults, particularly those with obesity, hypertension, and metabolic syndrome, and there is no reason to believe Bangladesh is different. The underrecognition of OSA in Bangladesh means that many patients with excessive daytime sleepiness, non-restorative sleep, and snoring are not being diagnosed, are not receiving continuous positive airway pressure (CPAP) treatment (the most effective treatment for moderate to severe OSA), and are not having their cardiovascular risk managed accordingly.

The psychiatric dimensions of OSA are also clinically important. Untreated OSA is associated with significantly elevated rates of depression, anxiety, and PTSD. The chronic sleep fragmentation and recurrent hypoxemia of OSA produce fatigue, irritability, impaired concentration, and low mood that can be difficult to distinguish from primary depression without taking an adequate sleep history. Treatment of OSA with CPAP has been shown to improve depression and anxiety symptoms in people where the psychiatric presentation is driven by the

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sleep disorder, reinforcing the importance of screening for OSA in psychiatric patients presenting with unexplained fatigue and mood disturbance.

137.7 Shift Work Sleep Disorder and the Garment Industry: A Bangladeshi Public Health Crisis

Bangladesh is home to one of the largest garment manufacturing industries in the world, employing approximately 4 million workers, the overwhelming majority of whom are women from rural backgrounds who have migrated to urban factory zones. Many garment factories operate multiple shifts, including night shifts, creating a large population of shift workers who are at risk of shift work sleep disorder, a condition characterized by insomnia during the main sleep period and excessive sleepiness during the work period, directly related to a work schedule that overlaps with the normal sleep period.

The mental health consequences of shift work sleep disorder are substantial and are compounded, in the Bangladeshi garment worker population, by the other stressors associated with this occupational group: poverty, workplace harassment and violence, precarious employment, social isolation from family networks, and the multiple health risks of factory work. The intersection of chronic sleep disruption, psychological stress, and the other occupational hazards of garment work creates a cluster of mental health risks that has received insufficient clinical and policy attention in Bangladesh.

A practical public health approach to sleep health in the garment worker population would include education of factory managers about the health consequences of shift work sleep disorder, the implementation of scientifically informed shift rotation practices that minimize circadian disruption (forward-rotating shifts with adequate time between rotations are less disruptive than backward-rotating shifts), the provision of a safe sleeping environment in factory dormitories, and the inclusion of sleep health assessment in occupational health programs for factory workers.

137.8 CBT-I in Bangladesh: Barriers, Adaptations, and Digital Opportunities

Cognitive-behavioral therapy for insomnia (CBT-I) is the most effective treatment for chronic insomnia disorder, with a strong evidence base demonstrating its superiority over pharmacological treatment in long-term outcomes. However, the delivery of CBT-I in the traditional format (six to eight individual sessions with a trained therapist) faces significant barriers in Bangladesh: the extreme shortage of trained therapists, the absence of training programs in CBT-I, the cost and access barriers to outpatient psychological treatment, and the cultural factors that may make some aspects of CBT-I (such as discussing sleep and bedroom practices) sensitive in clinical encounters.

Several developments offer potential solutions to these barriers. First, simplified versions of CBT-I have been developed and tested in non-specialist settings, including delivery by trained community health workers and delivery through self-help workbooks. These approaches preserve the core elements of CBT-I (particularly sleep restriction and stimulus control) while reducing the therapist time required. Second, digital CBT-I programs, delivered through smartphone apps

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or web-based platforms, have demonstrated efficacy comparable to therapist-delivered CBT-I in randomized trials, with the obvious advantages of scalability, accessibility, and reduced cost. Several digital CBT-I apps are freely available or low-cost, and at least one Bangla-language adaptation has been developed as a research tool, though systematic implementation is lacking.

Third, brief behavioral treatment for insomnia (BBTI), a four-session protocol delivering only the core behavioral components of CBT-I (sleep restriction and stimulus control) without the cognitive therapy component, has shown efficacy in several clinical trials and could be delivered by trained primary care workers in Bangladesh.

The pharmacological treatment of insomnia in Bangladesh presents a practical problem of major proportions. Benzodiazepines and related Z-drugs (zopiclone, zolpidem) are the most commonly prescribed treatments for insomnia in Bangladesh, as in most low- and middle-income countries. These medications have well-established short-term efficacy for sleep onset and maintenance but are associated with significant risks, including tolerance (requiring dose escalation to maintain effect), dependence (including physical dependence and withdrawal syndromes), rebound insomnia on discontinuation, cognitive impairment, falls and fractures in older adults, and exacerbation of OSA. The benzodiazepine dependence epidemic in Bangladesh, discussed elsewhere in this textbook in the context of substance use, has a significant sleep disorder component: many patients are prescribed benzodiazepines initially for sleep and subsequently become physically dependent.

The WHO's Mental Health Gap Action Programme (mhGAP) guidelines, which form the primary reference framework for non-specialist mental health care in Bangladesh, recommend against the use of benzodiazepines as routine treatment for insomnia and emphasize behavioral approaches. This recommendation is scientifically sound but difficult to implement in a context where trained behavioral therapists are scarce and prescribers default to pharmacological solutions. Bridging this implementation gap requires both training of prescribers in the evidence base for non-pharmacological approaches and the development of accessible behavioral treatment resources.

137.9 Pediatric Sleep Disorders in Bangladesh: An Underrecognized Dimension

Sleep disorders are extremely common in children and adolescents in Bangladesh and are significantly underrecognized and undertreated. Behavioral insomnia of childhood, the most common pediatric sleep disorder, occurs when parents inadvertently condition their child to require their presence for sleep onset (sleep onset association disorder) or when the child has difficulty accepting appropriate bedtime limits (limit-setting type). These conditions are highly prevalent in Bangladeshi families, where co-sleeping is normative and where clear boundaries between adult and child sleep settings may be absent. The management of behavioral insomnia of childhood is primarily behavioral, involving graduated extinction techniques (a structured process of allowing the child to self-soothe during brief, progressively longer separations from the parent at bedtime), which require parental commitment and a culturally acceptable framing of the goal.

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Delayed sleep-wake phase disorder, as noted above, is extremely common in Bangladeshi adolescents, whose biological tendency toward late sleep timing collides with early school start times that may require rising at five or six in the morning. The resulting chronic sleep deprivation has significant consequences for academic performance, emotional regulation, and mental health. Light therapy (exposure to bright light in the morning, which advances the circadian phase) and melatonin supplementation (given in the evening, which shifts the circadian clock earlier) are the primary treatments, but their availability and clinical recognition in Bangladesh are currently minimal.

Sleep disorders in children with neurodevelopmental conditions, including autism spectrum disorder and ADHD, are particularly common and particularly challenging to manage. Children with ASD have very high rates of insomnia and circadian rhythm disturbance, related in part to abnormalities in melatonin secretion and in part to sensory sensitivities and behavioral rigidities that complicate sleep routines. Children with ADHD have elevated rates of insomnia, delayed sleep phase, and restless legs syndrome. In both conditions, sleep disorder significantly exacerbates daytime behavioral and cognitive symptoms, and its recognition and management is an important part of comprehensive care for children with these conditions.

137.10 Case Study 137.1: Insomnia in a Garment Worker

Razia is a 32-year-old woman from Pabna who has been working in a garment factory in Ashulia, Dhaka for the past seven years. She presents to a charitable health clinic in the industrial area with complaints of difficulty sleeping, feeling exhausted despite spending long hours in bed, headaches, and increasing irritability that is affecting her work performance and her relationship with her two children, who live with her in the factory dormitory.

She describes her sleep pattern as follows: she goes to bed at 10 PM in the dormitory she shares with five other women, but lies awake for two to three hours with her mind racing with worries about her children's schooling, her debts, and her work. She wakes two or three times during the night and has difficulty returning to sleep. She wakes at 5 AM when the dormitory lights are turned on, feeling unrefreshed. She has been taking "sleeping tablets" obtained from a pharmacy for the past eight months, initially obtaining them without prescription, which has gradually improved her sleep onset but has made her feel groggy and confused in the morning.

Assessment reveals that Razia has chronic insomnia disorder that initially developed following a period of particular stress (her husband's migration to Malaysia for work) and has been perpetuated by the cognitive-behavioral pattern described above, compounded by the environmental sleep challenges of dormitory life (noise, shared sleeping space, irregular lighting). She has significant anxiety symptoms and mild depression that are themselves partly driven by chronic sleep deprivation. She also screens positive for significant psychological distress on the Kessler-10 scale.

The management of Razia's case involves several components: education about the nature of chronic insomnia and the paradoxical effects of spending more time in bed, behavioral sleep restriction (limiting her time in bed to six hours initially to consolidate sleep), stimulus control instructions (leaving bed when unable to sleep rather than lying awake ruminating), cognitive

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work to challenge catastrophic beliefs about the consequences of poor sleep, gradual tapering of benzodiazepine use (which requires careful planning to avoid withdrawal), and treatment of the comorbid anxiety and depression. Environmental modifications, including earplugs, negotiated quiet time arrangements with dormitory companions, and education about light and temperature for sleep, are also recommended.

The case illustrates the complexity of insomnia management in the Bangladeshi context and the need for practically adapted interventions that address the social and environmental determinants of sleep disorder alongside the individual psychological factors.

CHAPTER ONE HUNDRED AND THIRTY-EIGHT: CIRCADIAN RHYTHM DISORDERS, PARASOMNIAS, AND NARCOLEPSY: CLINICAL SCIENCE AND BANGLADESHI PERSPECTIVES

138.1 Circadian Rhythm Disorders: The Biology of Temporal Disruption

The human circadian clock is one of the most fundamental biological systems: a molecular oscillator, present in virtually every cell of the body, that generates approximately 24-hour rhythms in gene expression, metabolism, hormone secretion, immune function, and the sleep-wake cycle. The master clock, located in the suprachiasmatic nucleus of the hypothalamus, coordinates all peripheral clocks and synchronizes them to the external light-dark cycle through light input via the retinohypothalamic tract.

The molecular basis of the circadian clock, for which Jeffrey Hall, Michael Rosbash, and Michael Young were awarded the Nobel Prize in Physiology or Medicine in 2017, involves a transcription-translation feedback loop in which the proteins CLOCK and BMAL1 activate transcription of the Per and Cry genes, whose protein products feed back to inhibit CLOCK-BMAL1 activity, producing an oscillation with a period of approximately 24 hours. This molecular mechanism is extraordinarily conserved across species, from cyanobacteria to humans, reflecting its fundamental biological importance.

Disruption of the circadian clock, whether through shift work, jet lag, irregular social schedules (social jetlag), or intrinsic clock disorders like delayed sleep-wake phase disorder, has consequences that extend far beyond sleepiness and fatigue. Circadian disruption is associated with increased risk of metabolic syndrome, type 2 diabetes, cardiovascular disease, breast cancer, gastrointestinal disorders, immune dysfunction, and depression. The mechanisms linking circadian disruption to these outcomes include dysregulation of metabolic hormones (particularly insulin and cortisol), impaired immune function, altered gut microbiome composition, and disruption of the cellular repair processes that normally occur during sleep.

In Bangladesh, circadian disruption is an underappreciated public health problem. The night-shift garment worker is the most visible example, but circadian disruption also affects a wide range of other groups: medical students and physicians on night duty rotations, security guards, transport workers, night-market vendors, and the millions of Bangladeshis with delayed sleep

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phase whose natural circadian tendencies are in constant conflict with social schedules. The public health case for addressing circadian health in Bangladesh parallels the case made decades ago for physical activity and smoking, as a fundamental behavioral determinant of chronic disease risk.

138.2 Parasomnias: Clinical Science and Cultural Interpretation

Parasomnias are a heterogeneous group of sleep disorders characterized by abnormal behaviors, movements, emotions, perceptions, or autonomic activity occurring during sleep or the transitions between sleep and wakefulness. They include non-REM parasomnias (sleepwalking, sleep terrors, confusional arousals), REM parasomnias (REM sleep behavior disorder, nightmare disorder), and other parasomnias.

Non-REM parasomnias occur during slow-wave sleep, most commonly in the early part of the night. Sleepwalking involves complex motor behaviors performed while apparently asleep, with subsequent amnesia for the episode. Sleep terrors involve episodes of intense fear, screaming, and autonomic activation from which the person is difficult to arouse and for which there is subsequent amnesia. Confusional arousals involve disoriented, confused behavior upon arousal from slow-wave sleep. These conditions are common in children (affecting 10 to 15 percent of children at some point) and less common in adults (2 to 4 percent). They tend to run in families, reflecting a significant genetic component, and are precipitated by sleep deprivation, fever, certain medications, and psychological stress.

In Bangladesh, the interpretation of parasomnia episodes is shaped by cultural frameworks that may dramatically differ from the neurophysiological account. Sleepwalking episodes may be interpreted as spirit possession (the person walking at night under the influence of a jinn or other supernatural being), and sleep terrors may be interpreted as attacks by spirits or as prophetic experiences. The clinical challenge is to distinguish parasomnia from genuine dissociative episodes, from nocturnal seizures, and from the REM sleep behavior disorder that has a very different neurological significance, while doing so in a culturally sensitive way that does not dismiss the patient's or family's interpretive framework.

REM sleep behavior disorder (RBD) is clinically distinguished from non-REM parasomnias by its occurrence in the second half of the night (when REM sleep predominates), by the association with dream content (the patient acts out a dream they can often recall), and by the potential for injury to the patient or bed partner. RBD is particularly important because it is a major prodromal marker of synucleinopathy: approximately 80 to 90 percent of people with idiopathic RBD will go on to develop Parkinson's disease, Lewy body dementia, or multiple system atrophy within 10 to 15 years of RBD onset. This makes RBD one of the earliest and most specific biomarkers of neurodegenerative disease in current clinical practice. In Bangladesh, where awareness of RBD is very low, many patients with this condition are likely being seen by neurologists, general practitioners, or spiritual healers without the diagnosis being made.

138.3 Narcolepsy in Bangladesh: A Misdiagnosed and Underrecognized Condition

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Narcolepsy is a chronic neurological condition characterized by excessive daytime sleepiness, cataplexy (sudden, brief episodes of muscle weakness triggered by strong positive emotions such as laughter or excitement), sleep paralysis (the inability to move when falling asleep or waking), hypnagogic hallucinations (vivid sensory experiences when falling asleep), and disturbed nocturnal sleep. The prevalence of narcolepsy is estimated at approximately 20 to 50 per 100,000 population, suggesting that there are thousands of people with narcolepsy in Bangladesh.

Narcolepsy type 1 (with cataplexy) is caused by the autoimmune destruction of orexin-producing neurons in the lateral hypothalamus, resulting in very low or absent orexin-A levels in cerebrospinal fluid. This is confirmed by measuring orexin-A in a lumbar puncture sample, a test not routinely available in Bangladesh, but the clinical diagnosis can be strongly supported by the characteristic symptom pattern and by polysomnography with multiple sleep latency testing (MSLT).

In Bangladesh, narcolepsy is almost certainly severely underdiagnosed. The symptoms of narcolepsy, including cataplexy (which may be misinterpreted as seizures, weakness, or possession states), hypnagogic hallucinations (which may be interpreted as spiritual experiences or psychosis), and sleep paralysis (which has its own cultural interpretations in Bangladeshi folk belief, as in the Bangla concept of "boka" or the supernatural entity that immobilizes people during sleep), are all readily misinterpreted through frameworks other than narcolepsy. A young person who repeatedly falls asleep in class, has episodes of sudden weakness when they laugh, and reports seeing figures in the room when falling asleep is more likely to be understood as a spiritual problem, an academic problem, or a psychiatric problem than as a person with a treatable neurological sleep disorder.

Treatment of narcolepsy in Bangladesh is limited by the availability of appropriate medications. Modafinil, a wakefulness-promoting agent and the first-line treatment for excessive daytime sleepiness in narcolepsy, is available in Bangladesh but may be expensive and is not universally covered by insurance or reimbursement mechanisms. Sodium oxybate, considered the most effective treatment for the full symptom complex of narcolepsy including cataplexy, is not available in Bangladesh. Tricyclic antidepressants and SSRIs, which suppress REM sleep and reduce cataplexy, are available and represent a practical pharmacological option for managing cataplexy in resource-limited settings.

CHAPTER ONE HUNDRED AND THIRTY-NINE: SEXUAL DYSFUNCTION AND SEXUAL HEALTH IN BANGLADESH: PHILOSOPHY, HISTORY, AND CLINICAL SCIENCE

139.1 Sexuality, Psychiatry, and the Problem of Cultural Normativity

No area of psychiatry is more thoroughly shaped by cultural values, social norms, and historical contingencies than sexual health and sexual dysfunction. The classification and management of sexual conditions by psychiatry and medicine has a deeply troubled history, reflecting not so

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much timeless medical truth as the prevailing moral and social norms of the classifying society. The most notorious example is homosexuality, which was classified as a mental disorder in the DSM until 1973 and the ICD until 1990, not because of evidence that it caused harm to the person or impaired functioning, but because it deviated from the sexual norms of the societies in which these classifications were produced.

The history of psychiatric engagement with sexuality is, in part, a history of the pathologizing of non-normative sexual practices, desires, and identities. Michel Foucault's analysis of the "history of sexuality" documented the ways in which the discourse of sexuality in modern Western society, including the medical and psychiatric discourse, functions as a form of power that constitutes and regulates sexual subjects. The "scientia sexualis" of the 19th and 20th centuries, including the work of Krafft-Ebing, Havelock Ellis, and their successors, produced a detailed taxonomy of sexual pathologies that reflected, above all, the sexual anxieties and moral frameworks of bourgeois Victorian and post-Victorian society.

This history is not irrelevant to clinical practice in Bangladesh. The diagnostic frameworks of DSM-5-TR and ICD-11 for sexual dysfunction and paraphilic disorders reflect specific cultural values that do not necessarily translate directly into the Bangladeshi cultural context. The definition of "adequate" sexual function, the thresholds for "clinically significant distress," and the norms against which sexual dysfunction is measured are all culturally variable. What constitutes a sexual problem requiring clinical attention varies across cultures, within cultures, and across the life course. The competent clinician in Bangladesh must be aware of this cultural variability and must approach questions of sexual health with both clinical rigor and deep cultural sensitivity.

At the same time, the cultural relativism argument can be taken too far. There are real conditions, involving genuine suffering, functional impairment, and relational distress, that constitute sexual dysfunction in any cultural context, and clinical nihilism (refusing to engage with sexual problems because "it's all cultural") is as unhelpful as cultural imperialism (applying Western sexual norms uncritically). The challenge is to engage with genuine clinical problems with cultural sensitivity, drawing on both the evidence base from international research and a deep understanding of the specific Bangladeshi cultural context.

139.2 Historical Perspectives on Sexual Health in Bangladesh: From Kama to Colonialism

The historical traditions of understanding and managing sexual health in Bengal draw on several overlapping frameworks that predate and coexist with biomedical psychiatry.

The tradition of Ayurvedic medicine, which has been practiced in Bengal for at least two thousand years, includes detailed accounts of sexual health and dysfunction. The Ashtanga Hridayam (approximately 7th century CE) and other classical Ayurvedic texts describe sexual disorders (vajikarana disorders), including premature ejaculation, erectile dysfunction, and loss of libido, and prescribe elaborate dietary, herbal, and behavioral treatments aimed at enhancing sexual vitality. The Ayurvedic concept of ojas, the refined vital essence produced from semen and considered the foundation of physical and mental strength, health, and spiritual development,

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underlies the cultural concern about semen loss that manifests in dhat syndrome and related presentations throughout South Asia.

The Islamic tradition of medicine (Unani tibb) similarly addresses sexual health within a comprehensive medical and moral framework. The Islamic concept of sexual health is inseparable from the concept of marital rights and responsibilities: both husbands and wives are understood to have rights to sexual satisfaction within marriage, and sexual dysfunction that denies these rights is understood as a matter of marital and moral concern, not merely a clinical one. Classical Unani texts address sexual dysfunction including erectile problems, premature ejaculation, and female arousal disorders, prescribing remedies (predominantly herbal, dietary, and behavioral) aimed at restoring sexual health within the marital context.

The British colonial period introduced both Victorian prudishness and Western biomedical frameworks of sexual pathology that added another layer of complexity to the Bangladeshi understanding of sexuality. The Victorian colonial administration's ambivalent engagement with Indian sexuality, simultaneously fascinated and horrified by the tradition of erotic literature and religious art that included explicit sexual representations, produced a complex legacy of both suppression and pathologization that shaped the development of medical education and clinical practice in Bengal.

Contemporary Bangladesh inherits all these historical layers simultaneously. The cultural discourse on sexuality in Bangladesh is shaped by Islamic values that emphasize the importance of sexuality within marriage and the sin of sexual activity outside marriage, by residual Ayurvedic and folk beliefs about the vital importance of semen retention and the dangers of semen loss, by the Victorian-influenced colonial medical tradition that associated sexual problems with moral failure, and by the contemporary global medical framework of sexual dysfunction as a health condition amenable to clinical treatment.

139.3 Classification of Sexual Dysfunction: DSM-5-TR and ICD-11

The DSM-5-TR classifies sexual dysfunctions as persistent disturbances in sexual desire or the psychophysiological changes that characterize the sexual response cycle, causing clinically significant distress in the individual. Major categories include the following.

Delayed ejaculation in men is characterized by marked delay in or inability to achieve ejaculation despite adequate sexual stimulation, causing significant distress. Male hypoactive sexual desire disorder involves persistently deficient or absent sexual thoughts, fantasies, and desire for sexual activity, causing significant distress. Erectile disorder involves at least one of: marked difficulty obtaining an erection, difficulty maintaining an erection, or marked decrease in erectile rigidity, causing significant distress. Female orgasmic disorder involves marked infrequency or absence of orgasm or marked reduced intensity of orgasmic sensations. Female sexual interest/arousal disorder involves lack of or significantly reduced sexual interest or arousal, as manifested by reduced interest, erotic thoughts, initiation, excitement, and sensation. Genitopelvic pain/penetration disorder involves persistent or recurrent difficulty with vaginal penetration, genital pain during intercourse, or fear of pain associated with penetration.

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The ICD-11 uses somewhat different terminology and organization: it includes sexual pain-penetration disorder, female sexual dysfunction (encompassing interest/arousal and orgasm disorders), male hypoactive sexual desire disorder, male orgasmic disorder, and erectile dysfunction. The ICD-11 explicitly distinguishes between lifelong (primary) and acquired dysfunctions, and between generalized and situational presentations, distinctions that have important implications for understanding etiology and guiding treatment.

Both DSM-5-TR and ICD-11 require that the condition causes clinically significant distress, a criterion that is particularly important in the context of sexual dysfunction because it means that the clinical relevance of a sexual symptom depends on the individual's (and their partner's) response to it, not simply on whether the symptom exists. A woman who does not experience orgasm but is not distressed by this does not have a sexual dysfunction in the clinical sense. A man whose erectile function declines with age in a way that is developmentally typical may not have an erectile disorder if he and his partner adapt to the change without distress. The role of cultural norms and expectations in shaping distress about sexual function is therefore central to the clinical assessment.

139.4 The Epidemiology of Sexual Dysfunction: Global and Bangladeshi Perspectives

Sexual dysfunction is among the most prevalent of all medical and psychological conditions globally, though its prevalence estimates vary enormously depending on the diagnostic criteria applied and the survey methods used. The Global Study of Sexual Attitudes and Behaviors (GSSAB), a landmark multinational survey conducted in 29 countries and published in 2005, found that sexual dysfunction was reported by 28 percent of women and 22 percent of men globally, with considerable variation across world regions and cultural contexts.

In Bangladesh, the prevalence of sexual dysfunction is unknown but is almost certainly very high, for several reasons. First, the cultural and social conditions that create risk factors for sexual dysfunction are prevalent: IPV (which is a major risk factor for female sexual dysfunction), depression and anxiety (major risk factors for sexual dysfunction of all types in both sexes), chronic physical illness (associated with sexual dysfunction through both physiological and psychological mechanisms), nutritional deficiency, and the adverse effects of medications prescribed for depression and other conditions (particularly SSRIs, which commonly cause sexual dysfunction including delayed orgasm, reduced desire, and erectile dysfunction). Second, the cultural and social barriers to help-seeking for sexual dysfunction are enormous: the intense taboo around discussing sexuality openly in Bangladeshi culture, the shame associated with sexual problems, the fear of religious condemnation, and the absence of clinical services specifically oriented toward sexual health all mean that people with sexual dysfunction are highly unlikely to present for clinical care.

The phenomenon of dhat syndrome in Bangladesh, as discussed in Part One of this textbook, represents one of the most visible cultural expressions of sexual health concern in the Bangladeshi context. Dhat syndrome, characterized by symptoms including weakness, fatigue, depression, anxiety, and sexual dysfunction attributed to semen loss through nocturnal emissions, masturbation, or perceived loss through urine, affects a significant number of Bangladeshi men and is frequently encountered in general medical and primary care settings.

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The ICD-11 recognizes dhat syndrome as a culture-specific disorder. Its management requires both clinical skills (recognizing and treating the comorbid anxiety and depressive disorders that are almost always present) and cultural competence (engaging respectfully with the patient's belief system about semen while providing accurate information about normal seminal physiology and reassurance about the absence of physical harm from normal ejaculation).

139.5 The Neurobiology and Psychophysiology of Sexual Response

The scientific understanding of sexual response has been transformed over the past half-century, beginning with the pioneering observational research of William Masters and Virginia Johnson, whose landmark studies "Human Sexual Response" (1966) and "Human Sexual Inadequacy" (1970) established an empirical foundation for understanding the physiological dimensions of sexual function and provided a framework for sex therapy that remains clinically important.

Masters and Johnson described four phases of sexual response in both men and women: excitement (initial genital engorgement and lubrication), plateau (sustained arousal), orgasm (muscular contraction and ejaculation/orgasm), and resolution (return to baseline). Kaplan's subsequent modification of this model added desire as a distinct first phase, recognizing that problems of sexual desire required different clinical understanding and treatment than problems of arousal or orgasm.

The neurobiology of sexual function involves an extraordinarily complex interplay of central and peripheral neural systems, vascular mechanisms, and hormonal factors. At the central level, the medial preoptic area of the hypothalamus is a critical integration center for sexual motivation and behavior, receiving inputs from limbic structures (including the amygdala and hippocampus) and projecting to brainstem nuclei and spinal cord circuits that control peripheral sexual function. The dopaminergic system plays a key facilitatory role in sexual motivation and reward (the mesolimbic pathway), while the serotonergic system is generally inhibitory, which explains why SSRIs so frequently produce sexual dysfunction. Oxytocin and prolactin are involved in the bonding and satiety phases of sexual experience.

At the peripheral level, erectile function depends on the release of nitric oxide (NO) in penile cavernous tissue, producing smooth muscle relaxation and engorgement. This mechanism underlies the efficacy of phosphodiesterase type-5 (PDE5) inhibitors (sildenafil, tadalafil, vardenafil) in erectile dysfunction: by inhibiting the enzyme that degrades cyclic GMP (the second messenger activated by NO), these drugs enhance the vasodilatory response to sexual stimulation. Female genital engorgement is governed by similar mechanisms, though the pharmacological implications have been less well translated into clinical treatments.

The distinction between central (psychological or neurological) and peripheral (vascular or endocrine) components of sexual dysfunction has important clinical implications. Erectile dysfunction that is present across all situations (during masturbation as well as partnered sex, during sleep as measured by nocturnal penile tumescence testing) is more likely to have a predominantly organic basis, while dysfunction that is situational (present in some contexts but not others) is more likely to have a significant psychological component. This distinction is clinically relevant in Bangladesh, where many men presenting with erectile dysfunction have a

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mixed etiology involving both psychological factors (performance anxiety, depression, relationship conflict) and physical factors (hypertension, diabetes, medication side effects).

139.6 Sexual Dysfunction in Bangladesh: The Clinical Picture

The clinical presentation of sexual dysfunction in Bangladesh is shaped by cultural factors that create specific patterns of presentation, specific barriers to disclosure, and specific challenges for assessment and treatment.

Erectile dysfunction is the most common sexual dysfunction presenting to clinicians in Bangladesh, partly because it is the most acceptable for men to acknowledge and seek help for (it is more easily construed as a medical problem than as a psychological one), and partly because it is genuinely very prevalent in a population with high rates of hypertension, diabetes, tobacco use, and psychological comorbidity. The treatment of erectile dysfunction in Bangladesh includes PDE5 inhibitors (sildenafil is available and affordable in generic form in Bangladesh), treatment of contributing medical conditions, and psychological and relational interventions for cases with significant psychological contribution. However, many men obtain sildenafil and related drugs from pharmacies without prescription and without addressing the underlying medical or psychological factors, creating both therapeutic gaps and risks (sildenafil is contraindicated with nitrate medications, which are commonly used in Bangladesh for cardiovascular disease, and the combination can cause fatal hypotension).

Dhat syndrome, as discussed, is an extremely common presentation to general practitioners and internists in Bangladesh and is rarely referred to psychiatrists. Its management requires recognition of the condition, explanation of normal seminal physiology, reassurance about the absence of physical harm, and treatment of comorbid anxiety and depressive disorders. Cognitive-behavioral approaches addressing the catastrophic beliefs about semen loss that maintain the symptom complex are effective but require trained therapists.

Vaginismus (genitopelvic pain/penetration disorder in DSM-5-TR terminology) is an extremely common cause of sexual dysfunction and gynecological distress in Bangladeshi women, but is profoundly underreported and underdiagnosed. In a cultural context where premarital discussion of sexual matters is generally not acceptable, where sex education is limited or absent, and where young women frequently enter marriage with minimal preparation for sexual activity, the experience of painful or impossible penetration on the wedding night is extremely common. Many women experience repeated painful attempts at penetration over months or years before seeking help, and when they do seek help it is typically from gynecologists or traditional practitioners rather than from psychiatrists or psychologists. The management of vaginismus involves the use of progressive vaginal dilators, psychoeducation about normal female sexual anatomy and response, cognitive work addressing catastrophic anticipation of pain, and couples therapy addressing the relational dimensions of the problem. These interventions are effective and should be widely available, but in Bangladesh they require both clinical training and sensitive, culturally appropriate implementation.

Female sexual interest and arousal disorder and female orgasmic disorder are almost certainly highly prevalent in Bangladesh, given the cultural factors that shape female sexuality: the

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expectation that female sexuality exists primarily to serve male pleasure, the absence of sexual education, the cultural shame about female sexual desire, the high prevalence of IPV (which is one of the strongest risk factors for female sexual dysfunction), and the prevalence of depression and anxiety. However, these conditions are rarely presented clinically because Bangladeshi women have both fewer frameworks for understanding their sexual experiences as problems requiring clinical attention, and greater social barriers to discussing sexual experiences with health professionals. Building clinical capacity to recognize and address female sexual dysfunction in Bangladesh requires not only training of clinicians but broader social change in the attitudes toward female sexuality.

139.7 Sexuality, Sexual Health, and Human Rights: The Context of Bangladesh

The legal and social context of sexual health in Bangladesh shapes clinical practice in important ways. Sexual behavior is regulated by law in Bangladesh, with the 1860 Penal Code (Section 377) criminalizing "carnal intercourse against the order of nature," a provision inherited from British colonial law that is applied to homosexual relationships. The existence of this law, while its enforcement is inconsistent and contested, creates an environment in which LGBTQ+ individuals in Bangladesh face both criminal jeopardy and intense social stigma, with profound consequences for their mental health and access to health care.

The mental health consequences of sexual minority identity in a context of criminalization, social marginalization, and high rates of violence and discrimination are severe. Research from other contexts with similar legal environments consistently shows elevated rates of depression, anxiety, suicidal ideation, and suicide in LGBTQ+ populations, and there is no reason to believe Bangladesh is different. The clinician encountering a patient whose presenting mental health problems may be related to sexual minority identity faces a dual challenge: providing appropriate clinical care while navigating a legal and social environment that is hostile to that identity.

It must be emphasized clearly: sexual orientation is not a mental disorder, and "conversion therapy" (any attempt to change sexual orientation through psychological or physical means) is not a legitimate clinical practice. The evidence is overwhelming that sexual orientation cannot be changed and that attempts to change it cause significant psychological harm. Organizations including the World Psychiatric Association, the American Psychiatric Association, the Royal College of Psychiatrists, and the World Health Organization have all condemned conversion therapy as harmful and unethical. The clinician in Bangladesh must hold this position clearly while also engaging sensitively with the social and legal realities that their patients face.

139.8 Case Study 139.1: Sexual Dysfunction in a Newly Married Couple

Karim and Fatima are a recently married couple in their late twenties from an urban middle-class background in Dhaka. They are referred to a gynecologist by their family physician after presenting with an inability to achieve vaginal penetration four months after marriage. The gynecologist finds no physical abnormality and refers them to a psychiatric outpatient clinic.

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Karim presents with significant anxiety and self-doubt about his sexual adequacy. He reports that on the occasions when he has attempted intercourse, he has lost his erection due to anxiety about the outcome, which in turn has amplified Fatima's fear of penetration, creating a vicious cycle of anticipatory anxiety and avoidance. Fatima presents with intense fear of penetration, which she describes as an involuntary tightening of her vaginal muscles that makes insertion impossible. She has no other gynecological symptoms and describes no history of sexual trauma.

Assessment reveals that Fatima meets criteria for genitopelvic pain/penetration disorder (vaginismus) and that Karim has situational erectile dysfunction secondary to performance anxiety. Both have significant anxiety symptoms. Their communication about sex is essentially absent: neither has a framework for discussing sexual matters openly with the other, and both carry significant shame about the situation.

Treatment involves simultaneous management of both presentations. Fatima is started on a progressive vaginal dilator program, beginning with the smallest size and progressing over several weeks to larger sizes, with detailed psychoeducation about female sexual anatomy and response, and relaxation techniques for managing anticipatory anxiety. Karim's performance anxiety is addressed through cognitive restructuring targeting his catastrophic beliefs about erectile function and his definition of sexual success, and through sensate focus exercises (a graduated program of non-demand touching developed by Masters and Johnson that systematically reduces performance pressure by temporarily removing intercourse as the goal of sexual encounters). Couples communication work addresses their avoidance of discussing sexual matters and helps them develop a shared language for expressing their experiences and needs.

This case illustrates the importance of treating sexual dysfunction as a relational problem, not simply as an individual one; of combining psychological and behavioral approaches; and of providing psychoeducation that normalizes the experience while offering a clear pathway toward recovery. It also illustrates how cultural factors (specifically the absence of premarital sex education and the cultural prohibition on open discussion of sexuality) can directly create the conditions for sexual dysfunction.

CHAPTER ONE HUNDRED AND FORTY: PARAPHILIC DISORDERS, GENDER DYSPHORIA, AND CONTROVERSIES IN SEXUAL PSYCHIATRY

140.1 Paraphilic Disorders: Classification, Controversy, and Clinical Relevance

Paraphilic disorders are conditions in which intense and persistent sexual arousal to atypical objects, situations, or individuals causes significant distress to the person or involves harm to others. The ICD-11 and DSM-5-TR distinguish between paraphilias (atypical sexual interests that do not in themselves constitute disorders) and paraphilic disorders (paraphilias that cause significant distress or functional impairment, or that involve harm to others or non-consenting individuals). This distinction is clinically and philosophically important: it explicitly decriminalizes consensual atypical sexual practices between adults while retaining clinical categories for presentations that involve harm.

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The major paraphilic disorder categories include voyeuristic disorder (sexual arousal from observing unsuspecting individuals disrobing or engaged in sexual activity), exhibitionistic disorder (sexual arousal from exposing one's genitals to unsuspecting persons), frotteuristic disorder (sexual arousal from touching or rubbing against a non-consenting person), pedophilic disorder (sexual arousal toward prepubescent children), sexual masochism disorder and sexual sadism disorder (arousal from one's own suffering or from inflicting suffering on others), fetishistic disorder (arousal from inanimate objects or non-genital body parts), and transvestic disorder (arousal from cross-dressing in a male with a paraphilic focus on this behavior).

Pedophilic disorder is the most clinically and socially significant paraphilic disorder and requires special mention in the Bangladeshi context. Child sexual abuse (CSA) is a serious and prevalent problem in Bangladesh, with studies suggesting that significant proportions of children experience some form of sexual abuse, the perpetrators of which include family members, neighbors, teachers, and employers. The relationship between pedophilic disorder and CSA is complex: most CSA is perpetrated not by individuals with a primary pedophilic orientation but by situationally motivated offenders who exploit opportunity, access, and the power differential between adults and children. Nevertheless, the clinical recognition and management of pedophilic disorder, including voluntary treatment programs and risk management approaches, is a clinically and socially important area that has received little attention in the Bangladeshi context.

140.2 Gender Dysphoria and Transgender Health in Bangladesh

Gender dysphoria, defined in DSM-5-TR as a marked incongruence between one's experienced or expressed gender and assigned gender, accompanied by clinically significant distress or functional impairment, is a condition that has been managed by psychiatrists and psychologists. The ICD-11 took the significant step of moving "gender incongruence" out of the chapter on mental and behavioral disorders and into the chapter on "conditions related to sexual health," reflecting the growing consensus that gender incongruence is not a mental illness and that pathologizing it is both scientifically unjustified and harmful to transgender people.

The situation of transgender people in Bangladesh is distinctive. Bangladesh legally recognizes a "third gender" category known as the hijra community, a tradition that has existed in South Asia for centuries and that encompasses individuals assigned male at birth who identify with a gender identity that is neither conventionally male nor female, and who have a distinct social role in Bangladeshi society. The legal recognition of the hijra community, achieved in 2013, was a significant step, but in practice hijra individuals continue to face severe discrimination, social exclusion, violence, and limited access to health care, including mental health care.

The mental health needs of transgender and gender-diverse individuals in Bangladesh, including both members of the recognized hijra community and individuals whose gender diversity does not fit within that category, are substantial. The chronic stress of stigma, discrimination, and social exclusion creates elevated risk of depression, anxiety, PTSD, and substance use disorders. The clinician working with transgender patients must provide gender-affirming care, which means treating the gender identity itself as the patient's authentic identity and focusing clinical attention on the distress and functional impairment associated with social rejection and lack of

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access to appropriate gender-affirming medical care, rather than attempting to change the gender identity.

Gender-affirming medical care, including hormonal treatment and surgical interventions, is not widely available in Bangladesh, and the ethical frameworks and clinical guidelines for providing such care have not been systematically developed in the Bangladeshi context. This is an area requiring urgent attention, particularly as Bangladesh's recognition of the hijra community has created a legal framework within which health care rights for gender-diverse individuals can be articulated and pursued.

140.3 Controversies in Sexual Psychiatry: Sex Research, the Pharmaceutical Industry, and Cultural Imperialism

The field of sexual medicine and sexual psychiatry has several significant ongoing controversies that deserve explicit attention.

The first concerns the medicalization of female sexual dysfunction. Critics, including the sociologist Leonore Tiefer and her colleagues in the New View Campaign, have argued that the pharmaceutical industry's drive to develop pharmacological treatments for female sexual dysfunction has produced a misleading picture of the nature and prevalence of female sexual problems. The attempt to develop a "female Viagra" based on the hydraulic model of male sexual response has been criticized as based on a misunderstanding of female sexuality, which is far more contextually and relationally determined than the hydraulic model implies. The controversies around flibanserin (a serotonin receptor agonist/antagonist approved by the FDA for hypoactive sexual desire disorder in premenopausal women) have highlighted the limited efficacy, significant side effects, and potentially misleading framing of pharmaceutical approaches to female sexual desire problems.

The second controversy concerns the classification and treatment of compulsive sexual behavior disorder, which was added to the ICD-11 in 2019 as a new diagnosis within the category of impulse control disorders. The concept of "sex addiction," while popular in self-help literature and some clinical circles, remains controversial in the academic literature, with significant debate about whether excessive or problematic sexual behavior constitutes a genuine addictive disorder with neurobiological parallels to substance use, or whether it is better understood as an expression of underlying psychological difficulties, moral distress about sexual behavior, or high sexual desire that is normal but in conflict with one's own or society's values.

The third controversy concerns the cultural imperialism of Western sexual medicine in non-Western settings. The application of diagnostic categories for sexual dysfunction, prevalence estimates, and treatment protocols developed in Western settings to populations with very different cultural frameworks for understanding sexuality raises fundamental questions about cultural validity, relevance, and potential harm. The psychiatrist in Bangladesh must maintain critical awareness of these issues while also providing effective clinical help to individuals who are genuinely suffering from sexual problems, regardless of whether those problems map neatly onto Western diagnostic categories.

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CHAPTER ONE HUNDRED AND FORTY-ONE: SEXUAL HEALTH PROMOTION AND SEXUAL DYSFUNCTION SERVICES IN BANGLADESH

141.1 The Current State of Sexual Health Services in Bangladesh

Sexual health services in Bangladesh are currently extremely limited, fragmented, and inadequate for the scale of need. The majority of attention to sexual health in the Bangladesh health system has historically focused on reproductive health (maternal and child health, family planning, sexually transmitted infections) rather than on sexual function, sexual dysfunction, and the mental health dimensions of sexual life. The concept of sexual health as including positive dimensions (sexual satisfaction, sexual well-being, the ability to have a fulfilling sexual relationship) rather than simply the absence of disease or dysfunction is not well established in clinical or policy frameworks.

The primary entry points for sexual dysfunction care in Bangladesh are general practitioners, internists, and gynecologists, most of whom have received limited training in the assessment and management of sexual dysfunction and who may approach the topic with their own cultural discomfort and stigma. Psychiatrists and psychologists represent a second, rarer point of entry, but referral for psychological treatment of sexual dysfunction is uncommon, and the availability of sex therapy per se (structured psychological treatment of sexual dysfunction using techniques like sensate focus, desensitization, and communication skills training) is extremely limited.

Non-governmental organizations working in the HIV/AIDS, reproductive health, and gender-based violence sectors provide some services relevant to sexual health, but these are typically narrowly focused on their specific programmatic mandates rather than providing comprehensive sexual health care. The Rohingya refugee population in Cox's Bazar, given the high rates of sexual violence that preceded and accompanied displacement, has particularly acute sexual and reproductive health needs, including needs for management of trauma-related sexual dysfunction and sexual health consequences of sexual violence.

141.2 Building Sexual Health Services in Bangladesh: A Practical Framework

The development of sexual health services in Bangladesh requires a comprehensive approach operating at multiple levels. At the level of clinical training, the integration of sexual health assessment and counseling skills into the training of primary care physicians, gynecologists, and psychiatrists is essential. Training should cover the assessment of sexual dysfunction, the provision of basic psychoeducation and reassurance, the management of common presentations like dhat syndrome and erectile dysfunction, and the recognition of presentations requiring specialist referral. The development of brief, culturally adapted educational resources for patients and clinicians in Bangla is a practical and achievable step.

At the level of service organization, the integration of sexual health counseling into existing primary care and reproductive health services represents the most feasible approach to reaching the large number of people with sexual health problems who would never seek specialist care.

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This would involve training a cadre of counselors in sexual health assessment and brief counseling, integrating sexual health screening into routine consultations, and establishing clear referral pathways for complex presentations.

At the level of prevention and health promotion, comprehensive sexuality education, which is not currently provided in the Bangladeshi school curriculum in any meaningful form, is the most evidence-supported preventive intervention for a wide range of sexual health problems, including sexual dysfunction, sexual violence, and sexually transmitted infections. The political barriers to comprehensive sexuality education in Bangladesh are significant, given conservative religious and social attitudes, but the evidence for its benefits and the absence of evidence for the harms that are sometimes attributed to it are clear.

CHAPTER ONE HUNDRED AND FORTY-TWO: PHILOSOPHICAL AND PUBLIC HEALTH ANALYSIS OF FEEDING, SLEEP, AND SEXUAL HEALTH DISORDERS IN BANGLADESH

142.1 The Body as Contested Terrain: A Philosophical Commentary

The three domains covered in this Part, feeding and eating, sleep, and sexuality, share a fundamental characteristic that sets them apart from many other areas of psychiatry: they are domains of bodily life that are simultaneously driven by the most ancient biological imperatives and saturated with cultural meaning. Eating, sleeping, and having sex are things that all humans do, driven by evolutionary imperatives as old as life itself. Yet the ways in which they are done, the meanings attached to them, the social norms that regulate them, and the suffering that arises when they go wrong are profoundly shaped by culture.

The philosopher Michel Foucault argued that the body is not a natural given but a "docile body," shaped and disciplined by social power through what he called "biopower," the various techniques through which modern states, medical institutions, and cultural norms regulate the bodies and biological functions of individuals. The governance of eating (through dietary norms, food security policies, and the regulation of bodies by size and shape), the governance of sleep (through the regulation of work schedules, school start times, and the organization of urban environments), and the governance of sexuality (through law, religious practice, medical classification, and social norms) are all examples of what Foucault would call biopower in operation. Understanding this political dimension of bodily life is not merely philosophical but practically relevant for public health practice: public health interventions that seek to change eating behavior, sleep behavior, or sexual behavior are always embedded in structures of social power and must be designed with awareness of those structures.

The emerging field of "Health at Every Size" (HAES) and weight-neutral health promotion provides a practical example of the intersection of philosophy and public health practice in the area of eating and body weight. HAES challenges the traditional biomedical equation of low body weight with health and high body weight with disease, arguing that this equation is both scientifically oversimplified (health outcomes are influenced by many factors other than body

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weight) and socially harmful (the stigma and discrimination associated with higher body weight cause substantial psychological and physical harm that may exceed the harms of the weight itself). This perspective has been gaining ground in the international eating disorder field and has implications for how eating disorder prevention and treatment are framed in the Bangladeshi context, where the interplay of traditional cultural ideals (moderate plumpness as a sign of health and prosperity) and contemporary media ideals (thinness as a sign of beauty and sophistication) creates a particularly complex weight and body image landscape.

142.2 Social Determinants of Eating, Sleep, and Sexual Health in Bangladesh

The social determinants of health, including poverty, gender inequality, education, working conditions, social support, and the built environment, shape the prevalence and distribution of eating, sleep, and sexual health disorders in Bangladesh in ways that are both extensive and underappreciated.

Poverty influences eating disorder risk through multiple pathways. Severe poverty can directly cause nutritional deficiency and growth restriction, which has its own mental health consequences. Among less severely poor but economically precarious families, food insecurity (the uncertainty about whether one will have enough to eat) is associated with both restriction of eating and episodes of overeating when food is available, patterns that can contribute to the development of binge eating disorder. Among the newly middle class in urban Bangladesh, the anxiety about maintaining social status in the context of rapid economic change may contribute to the body image concerns and dietary preoccupations that underlie eating disorder risk. The relationship between poverty and eating disorders is thus not a simple one but involves complex and sometimes paradoxical pathways.

Poverty also shapes sleep health in Bangladesh in pervasive ways. Inadequate housing with crowded, noisy, poorly ventilated sleeping environments; the inability to afford appropriate sleeping conditions (including separate sleeping spaces for adults and children); irregular and demanding working hours driven by economic necessity; the chronic psychological stress of poverty; and the comorbid physical conditions (including chronic pain, respiratory illness, and malnutrition) that are more prevalent in poverty all contribute to the higher rates of sleep disorder observed in lower socioeconomic groups globally.

Gender inequality is perhaps the single most powerful social determinant of sexual health in Bangladesh. The patriarchal structure of Bangladeshi society, which gives men authority over women's bodies and sexuality within marriage, normalizes male sexual entitlement, restricts women's ability to negotiate condom use or refuse unwanted sex, exposes women to high rates of IPV and sexual violence, and denies women's right to sexual pleasure and agency, creates a sexual health landscape for Bangladeshi women that is characterized by high rates of sexual dysfunction, sexual violence, and unmet sexual health needs. Addressing sexual health in Bangladesh requires addressing gender inequality, not as a background social context but as the primary determinant of sexual health for the majority of women.

142.3 The COVID-19 Legacy: Eating, Sleep, and Sexual Health in the Aftermath of the Pandemic

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The COVID-19 pandemic had significant and lasting impacts on eating, sleep, and sexual health in Bangladesh that are still being felt as of 2025 and 2026.

The pandemic accelerated the eating disorder risk landscape in Bangladesh in several ways. Extended school and university closures, with students confined to homes and spending increased time on social media, increased exposure to body-related content and social comparison. Economic hardship for many families created food insecurity and disrupted normal eating patterns. The psychological distress of the pandemic period, including anxiety, depression, and social isolation, created conditions favorable for the development of disordered eating as a coping strategy.

Sleep was profoundly disrupted for many Bangladeshis during the pandemic. The systematic review and meta-analysis published in 2022 documenting a pooled prevalence of sleep problems of 45 percent in Bangladesh during the COVID-19 pandemic reflects an extraordinary degree of population-level sleep disruption, attributable to anxiety and psychological distress about the pandemic, disruption of daily routines, increased use of screens and social media at night, and the fear, grief, and economic insecurity associated with the pandemic. Many of the pandemic-induced sleep disruptions have persisted into the post-pandemic period, contributing to the high rates of insomnia currently documented in Bangladeshi populations.

Sexual health was also significantly impacted by the pandemic. Economic pressures during lockdowns reduced sexual satisfaction for many couples struggling with financial stress, overcrowding, and emotional exhaustion. The closure of health services during lockdowns delayed access to contraception, gynecological care, and management of sexual health conditions. IPV, as documented globally, increased during lockdown periods in Bangladesh, with severe consequences for the sexual and mental health of affected women. The indirect effects of pandemic-related economic hardship on commercial sex work and on the sexual health of sex workers also require consideration.

CHAPTER ONE HUNDRED AND FORTY-THREE: CONTROVERSIES AND CUTTING-EDGE DEVELOPMENTS IN PART TEN TOPICS

143.1 The GLP-1 Revolution and Its Implications for Eating Disorders

One of the most significant pharmacological developments of the past decade is the emergence of glucagon-like peptide-1 (GLP-1) receptor agonists, including semaglutide and tirzepatide, as highly effective treatments for obesity and type 2 diabetes. These agents, which act on GLP-1 receptors in the gut and brain to suppress appetite, slow gastric emptying, and improve glycemic control, have produced weight loss in clinical trials far exceeding anything previously achievable with pharmacological treatments.

The GLP-1 revolution has significant implications for eating disorder psychiatry, both potentially positive and potentially concerning. On the positive side, GLP-1 receptor agonists are being investigated as potential treatments for binge eating disorder, where their appetite-

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suppressing and reward-modulating effects may be clinically useful. Early clinical reports suggest they may reduce the frequency and intensity of binge episodes in BED.

On the concerning side, there is potential for GLP-1 receptor agonists to be misused by individuals with anorexia nervosa or subthreshold eating disorder psychopathology as a means of achieving extreme weight loss, compounding the already serious medical risks of these conditions. The availability of semaglutide in Bangladesh, where generic versions are beginning to appear, creates the possibility of its use by individuals with eating disorder psychopathology in ways that could be medically dangerous. Clinicians in Bangladesh should be aware of this possibility and should screen for eating disorder psychopathology in patients requesting or using GLP-1 receptor agonists for weight loss.

143.2 Digital Phenotyping and Precision Sleep Medicine

The rapid expansion of wearable technology for sleep monitoring, including smartwatches, fitness trackers, and dedicated sleep trackers, is creating new possibilities for the assessment and management of sleep disorders in Bangladesh. While polysomnography remains the gold standard for diagnosing complex sleep disorders, wearable devices can provide useful objective information about sleep duration, sleep efficiency, and circadian timing that complements self-report data. Several validated algorithms have been developed for actigraphy-based estimation of sleep parameters that could be used in clinical and research settings in Bangladesh.

The concept of "precision sleep medicine," analogous to precision psychiatry, involves using individually derived data about sleep patterns, circadian biology, and associated physiological parameters to tailor sleep interventions to the individual. For insomnia, this might involve using wearable data to optimize the timing and intensity of sleep restriction, light therapy, and melatonin supplementation for the individual's specific circadian profile. For OSA, objective sleep data from wearable sensors may help identify patients at risk and monitor treatment adherence. These approaches are currently being explored in research settings and may become clinically applicable in Bangladesh as the cost of wearable technology continues to fall.

143.3 The Neuroscience of Sexual Desire: Advances and Controversies in 2024-2026

The neuroscience of sexual desire and its disorders has advanced significantly in the past few years. Functional neuroimaging studies have provided increasingly detailed maps of the brain circuits involved in sexual motivation, arousal, and reward, demonstrating the central role of the mesolimbic dopamine system, the anterior cingulate cortex, the insula, and the hypothalamus. The discovery of novel neuropeptide systems involved in sexual motivation, including kisspeptin (a hypothalamic peptide that activates the gonadal axis and appears to have direct effects on sexual motivation) and melanocortins, is opening new targets for pharmacological intervention in sexual dysfunction.

The neurobiology of desire is particularly relevant to the ongoing debate about hypoactive sexual desire disorder (HSDD) and its relationship to sex hormones, particularly testosterone. Testosterone plays a role in sexual desire in both men and women, and testosterone deficiency is associated with reduced sexual desire in both sexes. Testosterone replacement therapy has

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demonstrated efficacy for HSDD in postmenopausal women, though its risk-benefit profile in premenopausal women and in men with borderline testosterone levels remains complex. In Bangladesh, where testosterone levels in men may be affected by chronic nutritional factors, endocrine disruption from environmental contamination, and psychosocial stress, the intersection of testosterone physiology and sexual dysfunction is clinically relevant, though poorly studied.

143.4 The Controversy About the "Female Viagra" and Gender Bias in Sexual Medicine

The ongoing controversy about the treatment of female sexual dysfunction with pharmacological agents, specifically the debate about whether hypoactive sexual desire disorder in women is adequately treated by serotonergic agents like flibanserin or vasodilatory agents like bremelanotide, reflects a fundamental tension between the pharmaceutical industry's interest in developing and marketing blockbuster drugs and the clinical reality that most female sexual dysfunction is substantially determined by psychological, relational, and contextual factors that do not respond to pharmacological intervention alone.

Critics including Leonore Tiefer and the New View Campaign have argued, with considerable evidence, that the pharmaceutical industry has played a major role in constructing HSDD as a prevalent and pharmacologically treatable condition in order to create a market for drugs, and that this process has involved overstating the prevalence of the condition, overstating the efficacy of pharmacological treatments, and obscuring the importance of contextual factors. This critique resonates strongly in the Bangladeshi context, where the social and relational determinants of female sexual dysfunction are particularly prominent and where pharmacological solutions are unlikely to address the underlying causes of most cases.

CHAPTER ONE HUNDRED AND FORTY-FOUR: COMPREHENSIVE CASE STUDIES FOR PART TEN

Case Study 10.1: Binge Eating Disorder in a Dhaka Housewife

Rahela is a 38-year-old housewife from Mirpur, Dhaka, married with three children. She is referred to a psychiatry clinic by her general practitioner, to whom she presented with complaints of weight gain, fatigue, and low mood. Her BMI on presentation is 31.5 kg/m2. She discloses, after gentle probing by the clinician, that she has been having "eating episodes" two to three times per week for the past two years, during which she consumes large amounts of food, particularly rice, sweets, and oily snacks, in a brief period with a sense of being out of control. After these episodes she feels intensely ashamed and disgusted with herself and hides the evidence (food wrappers, containers) before her husband returns home.

Rahela reports that her eating episodes typically occur in the mid-afternoon when her children are at school and her husband is at work, triggered by boredom, loneliness, and conflict with her mother-in-law, with whom she lives. She describes her daily life as characterized by social isolation, minimal autonomy, constant criticism from her mother-in-law, and a sense of

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entrapment in her domestic role. She endorses significant depressive symptoms. She has never discussed her eating pattern with anyone before.

Assessment reveals binge eating disorder, major depressive disorder of moderate severity, and significant psychological distress related to her social circumstances. She does not meet criteria for bulimia nervosa because there are no compensatory behaviors.

Management involves several components. Psychoeducation helps Rahela understand that her binge eating is a genuine disorder, not a moral failing, and that it has both biological (related to reward and stress systems) and psychological dimensions. CBT-E adapted for BED addresses the specific cognitive patterns maintaining her binge eating, including the perfectionism about dietary control that characterizes "all or nothing" eating attitudes, the use of eating to manage emotional distress, and the shame cycle. Interpersonal therapy (IPT) addresses the interpersonal precipitants of her binge episodes, helping her identify the connections between her relational distress and her eating behavior. Treatment of her depression with an SSRI improves her mood and, through its modest antibulimic effect, may also directly reduce binge frequency. A longer-term plan addresses the social isolation and lack of autonomy that are the primary social determinants of her presentation.

Case Study 10.2: Obstructive Sleep Apnea Presenting as Depression

Tariqul is a 52-year-old businessman from Sylhet who presents to a psychiatry clinic with a two-year history of "depression." He reports low mood, fatigue, loss of motivation, difficulty concentrating, and reduced enjoyment of his previously rewarding business activities. He has been treated with two different antidepressants by his family physician, neither of which has produced significant improvement.

On detailed clinical assessment, the treating psychiatrist notes that Tariqul is significantly overweight (BMI 34.2 kg/m2), has a large neck circumference, and that his wife (who attends with him) reports that he snores extremely loudly, has witnessed pauses in breathing during sleep, and says he seems to struggle for breath multiple times each night. Tariqul reports waking unrefreshed every morning despite spending nine to ten hours in bed, and he has twice fallen asleep at the wheel of his car. He frequently falls asleep after lunch and in the evenings. He attributes all of these symptoms to his depression.

The psychiatrist recognizes that Tariqul's presentation is highly consistent with obstructive sleep apnea masquerading as depression, and that his antidepressant treatments have failed because the primary driver of his depressive symptoms is likely the chronic sleep fragmentation and intermittent hypoxemia of undiagnosed severe OSA. He is referred to a respiratory physician for polysomnography, which confirms severe OSA with an apnea-hypopnea index of 45 events per hour and oxygen desaturation to 82 percent during apneic episodes. He is started on CPAP therapy. Six months later, his mood has improved substantially, his fatigue has resolved, and he has lost seven kilograms through improved energy and physical activity. His antidepressant has been tapered and discontinued.

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This case illustrates the critical importance of taking an adequate sleep history in all patients presenting with depressive symptoms, and the need to consider OSA in the differential diagnosis of treatment-resistant depression, particularly in middle-aged, overweight men with the characteristic clinical features.

Case Study 10.3: Narcolepsy Presenting as Possession

Sumaiya is a 17-year-old student from a religious family in Bogura who is brought to a district hospital psychiatric outpatient clinic by her parents after two years of episodic "collapses." The episodes occur when Sumaiya laughs or feels excited, during which her legs give way, she sinks to the floor, and she is briefly unable to move, typically for 30 to 60 seconds, before recovering fully. She is fully conscious and aware during these episodes but unable to speak or move. Her parents initially took her to a local religious healer, who attributed the episodes to jinn possession and performed several exorcism ceremonies without lasting effect. Sumaiya also reports that she frequently falls asleep during her school classes, that she sometimes sees frightening figures in her room as she falls asleep, and that she has occasional episodes of waking in the morning unable to move for a minute or two.

The psychiatrist recognizes this symptom complex as highly consistent with narcolepsy type 1. The episodes of sudden muscle weakness triggered by positive emotion are cataplexy, a pathognomonic feature of narcolepsy type 1. The excessive daytime sleepiness, hypnagogic hallucinations (seeing figures while falling asleep), and sleep paralysis (waking unable to move) complete the classic tetrad of narcolepsy.

Assessment includes EEG (which is normal, excluding epilepsy), a sleep study demonstrating short sleep latency and early-onset REM sleep, and a positive MSLT. The diagnosis of narcolepsy type 1 is established. Sumaiya is started on modafinil for daytime sleepiness and on clomipramine for cataplexy. The family is provided with education about narcolepsy, its neurological basis, and the absence of any spiritual dimension to the condition, delivered sensitively in a way that respects their religious framework while clearly establishing the medical diagnosis.

Six months later, Sumaiya's cataplexy is well controlled, she is able to stay awake through her school day, and her hypnagogic hallucinations and sleep paralysis have resolved. She is preparing for her school examinations. The case illustrates both the importance of taking a careful sleep history in any patient with atypical episodic symptoms, and the potential for spiritual misattribution of neurological sleep disorders in the Bangladeshi context.

Case Study 10.4: Dhat Syndrome and Comorbid Anxiety in a Young Man

Mahbub is a 24-year-old man from a rural area in Dinajpur who presents to a community health clinic with a six-month history of weakness, fatigue, reduced concentration, low mood, and what he describes as "loss of vitality." He attributes these symptoms to semen loss through masturbation, which he believes has depleted his vital energy (dhatu). He has been buying herbal preparations from a local vendor advertised as restorative for "semen deficiency" without benefit. He is increasingly preoccupied with counting his seminal emissions, has been limiting

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fluid intake to reduce what he believes is urinary semen loss, and has been avoiding social activities for fear that excitement will provoke seminal discharge. He is becoming increasingly dysfunctional.

Assessment reveals dhat syndrome in the context of significant generalized anxiety disorder (GAD). His health anxiety about semen loss appears to be an expression of his broader anxiety tendency, manifesting through the culturally available explanatory framework of dhat. He has no sexual dysfunction in terms of erectile function or ejaculation, but his anxiety about sexual activity and masturbation has led him to completely avoid them.

Management involves several elements. Psychoeducation about normal male reproductive physiology, delivered in culturally sensitive terms that acknowledge his concerns while providing accurate factual information about the normal frequency and biological significance of ejaculation, forms the foundation of treatment. Cognitive work addresses his catastrophic beliefs about the consequences of semen loss, drawing parallels with other forms of health anxiety. Treatment of his GAD with an SSRI (sertraline) and brief CBT produces significant improvement in his anxiety symptoms over eight weeks. The improvement in his anxiety is accompanied by significant reduction in his preoccupation with semen loss and gradual resumption of his previous social activities.

The case illustrates the importance of addressing the comorbid psychiatric disorder (anxiety) that drives many presentations of dhat syndrome, while also engaging respectfully with the cultural framework through which the patient is interpreting his symptoms.

CHAPTER ONE HUNDRED AND FORTY-FIVE: INVESTIGATION PROTOCOLS FOR PART TEN CONDITIONS IN BANGLADESH

145.1 Investigations for Eating Disorders

The investigation protocol for eating disorders in Bangladesh must prioritize the medical safety of the patient while being realistic about the investigations available in different levels of the health system. At district hospital level and above, the following investigations should be obtained in all patients presenting with suspected eating disorders of significant severity.

A full blood count assesses for anemia (commonly microcytic iron-deficiency anemia in restriction, but normocytic anemia in chronic starvation), leukopenia (common in severe malnutrition), and thrombocytopenia. Electrolytes, specifically sodium, potassium, chloride, bicarbonate, phosphate, and magnesium, are critical: hypokalemia and hypomagnesemia are common in purging behaviors, and hypophosphatemia is the key marker for refeeding syndrome risk. Liver function tests are important as hepatic impairment is common in severe anorexia nervosa. Blood glucose should be assessed as hypoglycemia can occur in severe starvation. Thyroid function tests (TSH and free T4) are important to exclude hypothyroidism, which can mimic some features of eating disorder restriction. Renal function (creatinine and urea) assesses

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hydration status and renal integrity. An ECG is essential in any patient with a significantly low body weight or electrolyte abnormality, given the risk of cardiac arrhythmias.

In severe cases or cases presenting to higher-level facilities, bone density measurement by DEXA should be arranged if the eating disorder has been present for more than one year, given the serious and potentially irreversible bone loss that occurs in anorexia nervosa. Brain MRI, while not a routine investigation, may be indicated in cases where cognitive impairment is pronounced, to exclude the cerebral gray matter loss that occurs in severe and chronic malnutrition.

145.2 Investigations for Sleep Disorders

The investigation of sleep disorders in Bangladesh depends on the level of clinical suspicion and the level of available resources. For most presentations of insomnia disorder, no investigation is required beyond a careful clinical history and assessment for comorbid psychiatric and physical conditions. However, several presentations warrant specific investigation.

If OSA is suspected (snoring, witnessed apneas, excessive daytime sleepiness, obesity, large neck circumference, hypertension), referral for polysomnography is the gold standard investigation. Polysomnography is currently available in Bangladesh only in a small number of tertiary centers in Dhaka and perhaps one or two other major cities, which significantly limits its accessibility. In settings where polysomnography is not available, a home sleep apnea test (a simplified ambulatory device measuring oxygen saturation, respiratory effort, and airflow) can be used, though it is less sensitive and specific than full polysomnography for complex cases. Clinical scoring systems (including the STOP-BANG questionnaire for OSA and the Epworth Sleepiness Scale for daytime sleepiness) can help stratify clinical suspicion and prioritize referral for formal investigation.

For suspected narcolepsy, polysomnography followed by a Multiple Sleep Latency Test (MSLT) is required for formal diagnosis. The MSLT measures sleep latency across five nap opportunities during the day following a nocturnal sleep study, and the finding of mean sleep latency below eight minutes with two or more sleep-onset REM periods (SOREMPs) is diagnostic of narcolepsy. Measurement of orexin-A in cerebrospinal fluid is the most specific test for narcolepsy type 1 (absent or very low orexin-A is essentially diagnostic) but requires lumbar puncture and specialized laboratory analysis.

145.3 Investigations for Sexual Dysfunction

The investigation of sexual dysfunction requires a systematic assessment of both physical and psychological contributors. Blood tests relevant to sexual dysfunction include fasting glucose and HbA1c (to assess for diabetes mellitus, a major cause of erectile dysfunction through both autonomic neuropathy and vascular damage), lipid profile (dyslipidemia contributes to vascular erectile dysfunction), thyroid function tests (both hypothyroidism and hyperthyroidism can cause sexual dysfunction), and hormonal assessment including testosterone (morning sample), sex hormone binding globulin, luteinizing hormone, follicle-stimulating hormone, prolactin, and estradiol (in women). Prolactinoma is a specific cause of both hypogonadism and sexual

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dysfunction that requires MRI of the pituitary for assessment. A complete blood count assesses for anemia, which can cause fatigue and reduced sexual function.

For erectile dysfunction specifically, assessment of nocturnal penile tumescence (NPT), which measures the number and quality of erections during sleep, can be used to distinguish psychogenic from organic erectile dysfunction. A full NPT study requires a sleep laboratory, but a simplified home version using a Rigiscan device is available in some settings. In clinical practice, the distinction between psychogenic and organic erectile dysfunction is often made on clinical grounds, using the history of situational versus global dysfunction, the presence or absence of morning erections, and the pattern of psychological symptoms.

CHAPTER ONE HUNDRED AND FORTY-SIX: SPECIAL POPULATIONS AND THEIR SPECIFIC NEEDS

146.1 Rohingya Refugees and Part Ten Conditions

The approximately one million Rohingya refugees currently living in camps in Cox's Bazar represent a population with specific and severe needs across all three domains covered in this Part. The combination of extreme trauma exposure, profound poverty, cramped and stressful living conditions, absence of meaningful occupation, uncertainty about the future, and very limited access to health care creates a perfect storm for the development of eating, sleep, and sexual health disorders.

In the domain of eating, food insecurity in the refugee camps has historically been severe, with food rations frequently below recommended caloric levels. The chronic food insecurity creates a specific form of eating dysregulation that includes restriction during periods of food unavailability and rapid, anxious eating when food is available, a pattern that may contribute to the development of binge eating behaviors over time. Nutritional deficiencies associated with the restricted and monotonous diet in the camps have physical health consequences that also affect mental health and function.

Sleep disorders in the Rohingya population are extremely prevalent, driven by the environmental conditions of camp life (extreme heat, crowding, noise, inadequate shelter), the psychological aftermath of severe trauma (particularly PTSD-related nightmares, hyperarousal, and insomnia), ongoing safety concerns (particularly for women and children at risk of violence within the camps), and the chronic stress of an uncertain future. PTSD and its associated sleep disturbances are documented in multiple studies of the Rohingya population, and sleep intervention programs (including adapted CBT-I delivered by trained community health workers) have been piloted in this context with preliminary positive results.

Sexual violence was both a precipitant and a continuing reality of the Rohingya crisis. Systematic sexual violence, including rape as a weapon of war, was documented as a feature of the Myanmar military's campaign against the Rohingya, and sexual violence within the camps has been reported as an ongoing concern. The sexual health needs of survivors, including

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management of trauma-related sexual dysfunction, treatment of STIs, provision of emergency contraception and safe abortion services, and long-term psychological support for sexual violence survivors, represent a major unmet need in the health response to the Rohingya crisis.

146.2 Elderly Persons and Part Ten Conditions

Older adults in Bangladesh represent a growing population with specific vulnerabilities in the domains of eating, sleep, and sexual health that are poorly recognized and poorly served by the current health system.

In the domain of eating, older adults in Bangladesh face the dual challenge of malnutrition (protein-energy malnutrition, micronutrient deficiencies, and age-related anorexia of aging are all common in elderly Bangladeshis) and, in the growing urban elderly population, obesity and metabolic syndrome. Eating disorders in older adults, including late-onset anorexia nervosa (often precipitated by bereavement, medical illness, or depression), BED (which can persist or newly develop in older adults), and the nutritional consequences of depression in old age, are underrecognized. The OSFED presentation of "purging disorder" in older adults, who may use laxatives for bowel management in ways that develop into compulsive purging, is a specific clinical concern.

Sleep disorders in elderly Bangladeshis are extraordinarily prevalent and underaddressed. Age-related changes in sleep architecture (reduced slow-wave sleep, increased sleep fragmentation, earlier circadian timing) interact with the physical comorbidities of aging (chronic pain, nocturia from prostatic hypertrophy or urge incontinence, dyspnea from cardiopulmonary disease), the medications used to treat those comorbidities (particularly diuretics, beta blockers, corticosteroids, and SSRIs, all of which affect sleep), and the psychological challenges of aging (bereavement, social isolation, fear of death) to produce a complex and often severe sleep disturbance. Benzodiazepine prescribing for sleep in elderly Bangladeshis is a significant clinical concern: these drugs cause cognitive impairment, falls, and hip fractures in older adults, and their prescription for insomnia in this group is almost never justified.

Sexual health in older adults in Bangladesh is doubly taboo: the combination of the general cultural taboo around discussing sexuality and the social assumption that older adults are or should be asexual means that sexual health problems in older Bangladeshis are virtually invisible in clinical settings. In reality, sexual interest and function persist into old age in many people, and problems of sexual dysfunction in elderly men (particularly erectile dysfunction related to vascular disease, diabetes, and hypogonadism) and elderly women (particularly genitourinary syndrome of menopause, characterized by vaginal atrophy, dryness, and dyspareunia) are common. The recognition and treatment of these conditions is a basic aspect of comprehensive health care for older adults that deserves greater clinical attention in Bangladesh.

CHAPTER ONE HUNDRED AND FORTY-SEVEN: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART ELEVEN

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147.1 Key Themes from Part Ten

Part Ten has traversed three clinically diverse but philosophically connected domains. Let us summarize the key themes that have emerged.

Eating disorders in Bangladesh are more prevalent than previously recognized, particularly among young people in urban settings with high social media exposure. The 2025 narrative review by Al Banna and colleagues, documenting eating disorder risk rates of 20 to 38 percent among Bangladeshi university students, is a landmark finding that challenges the assumption that eating disorders are absent or rare in Bangladesh. The clinical recognition of eating disorders in Bangladesh requires attention to culturally specific presentations, the intersection of traditional food culture with contemporary media ideals, the role of gender inequality in shaping eating disorder risk, and the medical seriousness of conditions that may not be recognized until late. Treatment capacity is essentially absent, and building it represents an urgent clinical and public health priority.

Sleep disorders represent the largest and least recognized mental health burden in this Part. Bangladesh was identified in global analyses as having among the highest insomnia prevalence in the world, and the documented rates of sleep problems in specific Bangladeshi populations (garment workers, medical students, healthcare workers, firefighters, people with chronic disease) are uniformly very high. The clinical and public health consequences of this sleep disorder burden, including for mental health, cardiovascular disease, metabolic disease, road safety, and occupational performance, are immense. CBT-I, the most effective treatment for insomnia, is practically absent in Bangladesh, and its development and scaling, including through digital platforms and task-sharing with trained non-specialist workers, is a priority. The recognition and management of less common sleep disorders (OSA, narcolepsy, REM sleep behavior disorder, parasomnias) requires both training of clinicians and investment in diagnostic capacity.

Sexual health disorders in Bangladesh are pervasive, profoundly underreported, and grossly underserved. The cultural and social factors that shape sexual dysfunction in Bangladesh, including gender inequality, IPV, the cultural discourse on semen and sexual vitality, the absence of sex education, and the intense taboos around discussing sexuality, create both specific patterns of dysfunction and specific barriers to care. Building sexual health services in Bangladesh requires addressing these cultural and social determinants alongside developing clinical capacity for assessment and treatment.

147.2 Connections to Part Eleven

Part Eleven of this textbook turns to the territory of substance use disorders and addictive behaviors in Bangladesh. This transition is not arbitrary. The three domains covered in Part Ten, eating, sleep, and sexuality, connect to substance use disorders in multiple important ways.

Disordered eating and substance use disorders share important neurobiological foundations: both involve dysregulation of reward circuits, impaired inhibitory control, and the use of consumption to regulate aversive internal states. The elevated rates of alcohol and substance use

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as comorbid conditions in eating disorders, particularly bulimia nervosa and BED, reflect these shared neurobiological and psychological foundations.

Chronic sleep disruption is both a risk factor for and a consequence of substance use disorders. Alcohol, while initially promoting sleep onset, profoundly disrupts sleep architecture, suppressing REM sleep and producing fragmented, non-restorative sleep that worsens during withdrawal. Opioids, benzodiazepines, cannabis, and stimulants all have complex effects on sleep that vary with dose, timing, and the stage of use or withdrawal. Many people with substance use disorders began using substances in part to manage insomnia or other sleep disturbances, and treatment of comorbid sleep disorders is an important component of comprehensive addiction treatment.

Sexual dysfunction and substance use disorders are deeply intertwined. Alcohol in low doses increases sexual disinhibition through its anxiolytic effects, while in higher doses and chronic use it causes erectile dysfunction, reduced libido, and impaired orgasmic function. Opioids cause profound hypogonadism through suppression of the hypothalamic-pituitary-gonadal axis, with severe sexual dysfunction that persists throughout opioid use and requires specific management during recovery. The use of substances to manage sexual anxiety, and the sexual dysfunction associated with addiction, are both clinically important dimensions of substance use disorders in Bangladesh.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART TEN

Vignette 10.1: A 19-year-old female student at a private university in Dhaka presents to the student health center with complaints of fatigue and amenorrhea for the past three months. Her BMI is 16.5 kg/m2. She reports that she has been "eating carefully" since her roommates commented that she had gained weight. She becomes distressed when you suggest that she may have a medical problem related to her eating. How would you approach the assessment of this patient? What investigations would you prioritize? How would you engage her family while respecting her autonomy?

Vignette 10.2: A 45-year-old male schoolteacher from Khulna presents with three years of difficulty maintaining sleep, waking at 3 AM every night with his mind racing. He is exhausted but says he cannot sleep. His wife says he snores loudly and sometimes stops breathing. His BMI is 28.1 kg/m2 and his blood pressure is 148/92 mmHg. He is taking a sedative from a pharmacist and feels "foggy" in the morning. What is the differential diagnosis? What investigations would you arrange? What treatment would you recommend?

Vignette 10.3: A 28-year-old newly married woman is brought to a gynecology clinic by her husband with the complaint that she has been unable to have intercourse since their wedding six months ago. The gynecologist finds no abnormality on examination. She appears extremely anxious. How would you assess this couple? What treatment approach would you recommend? How would you involve both partners in the treatment?

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Vignette 10.4: A 32-year-old male agricultural worker from Dinajpur presents with weakness, fatigue, and what he describes as "discharge of semen in urine" for the past eight months. He has been purchasing herbal remedies without benefit. He is visibly distressed. His physical examination and urinalysis are normal. How would you explain his condition to him? What treatment would you recommend?

Vignette 10.5: A 15-year-old male student is referred to a child and adolescent psychiatry clinic with concerns about excessive daytime sleepiness. His parents report he cannot be woken for school and falls asleep during class. He has had three episodes in which, while laughing with friends, he suddenly fell to the floor. Once, while falling asleep at night, he saw a frightening figure in his room. His EEG is normal. What diagnosis is most likely? How would you investigate this further? How would you explain the diagnosis to the patient and family?

STUDY QUESTIONS FOR PART TEN

Describe the neurobiology of anorexia nervosa, focusing on the reward system, interoception, and body image processing. How do these neurobiological features help explain the treatment resistance characteristic of severe anorexia nervosa? What are the implications for treatment?

Discuss the cultural context of eating disorders in Bangladesh with reference to recent epidemiological evidence. What factors are driving increasing eating disorder risk among Bangladeshi university students? What prevention strategies would be most appropriate for the Bangladeshi context?

What is the cognitive-behavioral model of insomnia? Describe the core components of CBT-I and the evidence for its efficacy. How might CBT-I be adapted for delivery in primary care settings in Bangladesh?

Explain the concept of obstructive sleep apnea, its epidemiology, its cardiovascular and psychiatric consequences, and its management. Why is OSA important in the context of treatment-resistant depression in Bangladesh?

Discuss dhat syndrome as a culture-specific presentation in Bangladesh, with reference to its historical origins, its phenomenology, its relationship to DSM and ICD classification, and its management. How does the inclusion of dhat syndrome in ICD-11 represent an advance in cross-cultural psychiatry?

What are the ethical principles governing clinical engagement with sexual health in Bangladesh? How should clinicians navigate the intersection of clinical evidence about sexual dysfunction with the cultural, religious, and social norms that shape sexuality in Bangladesh? What is the appropriate clinical response to a patient who is LGBTQ+ in the current legal context of Bangladesh?

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Describe the investigation protocol for a patient presenting with suspected eating disorder complications in a district hospital setting in Bangladesh, where specialist resources are limited. What are the most important investigations, what findings would indicate medical emergency, and what are the principles of initial management?

Discuss the public health implications of the high prevalence of sleep disorders in Bangladesh. What are the social determinants of sleep disorder burden in Bangladesh? What policy and programmatic interventions would be most impactful for improving population-level sleep health?

FURTHER READING FOR PART TEN

Eating Disorders: Foundational and Contemporary Sources

The World Psychiatry meta-analysis by Solmi and colleagues (2024), titled "Outcomes in people with eating disorders: a transdiagnostic and disorder-specific systematic review, meta-analysis and multivariable meta-regression analysis," provides the most current and comprehensive synthesis of eating disorder outcomes and represents essential reading for understanding prognosis across the spectrum of eating disorders. The finding of recovery rates previously underestimated in more pessimistic accounts has clinical importance for maintaining therapeutic optimism.

The Annual Review of Clinical Psychology review by Grilo (2024), "Treatment of eating disorders: current status, challenges, and future directions," provides a comprehensive and authoritative overview of the evidence base for eating disorder treatments, with critical assessment of the strengths and limitations of current approaches and directions for future development.

The Health Science Reports narrative review by Al Banna, Kundu, and Arafat (2025), "Eating disorders in Bangladesh: A narrative review," is the primary source for Bangladesh-specific epidemiological data on eating disorders and should be read alongside the methodological caveats discussed in this chapter.

Sleep Disorders: Key Sources

The comprehensive global insomnia analysis published in Sleep Medicine Reviews (2025), estimating the prevalence of insomnia disorder at 16.2 percent globally and identifying Bangladesh among the ten countries with highest prevalence, is a landmark epidemiological study and provides essential context for understanding the scale of the sleep disorder burden in Bangladesh.

The Nature and Science of Sleep study by Das and colleagues (2025), examining insomnia prevalence and associated factors among chronic disease patients in Bangladesh using data

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collected in 2024, provides the most current Bangladesh-specific data on the intersection of insomnia and chronic disease.

Walker, Matthew, "Why We Sleep" (2017), while written for a general audience and occasionally criticized for overstatement of some findings, provides an accessible and compelling account of the science of sleep and its health implications that is useful for clinician and patient education.

Harvey, Allison G., Sharpley, Ann L., and colleagues: the EFECTS series of CBT-I trials, demonstrating the efficacy of CBT-I across multiple psychiatric comorbidities, represents the strongest evidence base for CBT-I as a transdiagnostic intervention for sleep in psychiatric populations.

Sexual Health: Key Sources

The ICD-11 chapter on conditions related to sexual health (available at the WHO ICD-11 browser, icd.who.int) provides the authoritative contemporary classification of sexual conditions, including the significant decision to move gender incongruence out of the mental disorders chapter.

The Global Study of Sexual Attitudes and Behaviors (GSSAB), published in Archives of Sexual Behavior (2005), remains the most comprehensive multinational epidemiological study of sexual dysfunction and provides the global comparative context for understanding sexual dysfunction prevalence.

Tiefer, Leonore, "Sex Is Not a Natural Act" (2004), provides the definitive feminist critique of the medicalization of female sexuality and is essential reading for critical engagement with the pharmaceutical industry's role in constructing and treating female sexual dysfunction.

The DSM-5-TR and ICD-11 chapters on sexual dysfunctions should be read as primary sources alongside the research literature, noting the differences and areas of evolution between the two classification systems.

PART ELEVEN: CHILD AND ADOLESCENT PSYCHIATRY IN BANGLADESH

Developmental Psychopathology, Clinical Science, and the Public Health Imperative for the Nation's Young

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INTRODUCTORY NOTE TO PART ELEVEN

Part Ten closed with an observation about the deep interconnections between the bodily life domains of eating, sleep, and sexuality and the terrain of addiction. Those connections are real and important. But before the textbook moves to the specialized topics that occupy its final parts,

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there is a vast and critically important territory that must be traversed in its own right: the mental health of children and adolescents in Bangladesh.

This territory cannot be adequately treated as an appendage to the chapters on adult disorders, though children and adolescents inevitably appeared in those chapters, sometimes as patients, more often as background presences shaped by the adult worlds they inhabit. Nor can it be treated simply as a scaled-down version of adult psychiatry, with smaller doses of adult medications and briefer versions of adult therapies. Child and adolescent psychiatry is a genuinely distinct discipline. Its scientific foundations are grounded in developmental psychology, developmental neuroscience, and developmental psychopathology as much as in clinical psychiatry. Its clinical practice requires understanding the child as an organism in continuous transformation, embedded in a family system, a school environment, a community, and a culture, and developing over time through interactions among biological endowment, relational experience, and social context. Its ethical framework is shaped by the particular vulnerabilities of those who are not yet fully formed as autonomous agents, and by the duties of adults, including clinicians, to act in the best interests of children while also respecting the emerging autonomy of adolescents.

In Bangladesh, child and adolescent mental health carries a distinctive urgency. Approximately 40 percent of the national population of 170 million is under the age of 18: roughly 68 million children and young people. The National Mental Health Survey 2019 found a mental disorder prevalence of 13.6 percent in children and adolescents. If this figure is even approximately correct, it implies that over nine million children and young people in Bangladesh are living with a diagnosable mental disorder at any given time. The treatment gap is, if anything, even more profound than in the adult population: services for children and adolescents are essentially nonexistent outside a handful of specialist centers in Dhaka, trained child and adolescent mental health professionals number in the low hundreds at best, and the conceptual infrastructure for a public mental health response to the needs of children and young people is still in its infancy.

The consequences of this neglect are not abstract. They are visible in the epidemic of adolescent suicide that has been documented with growing alarm in recent years, in the profound suffering of millions of children experiencing untreated depression, anxiety, and conduct problems, in the educational underachievement and social exclusion that flow from unrecognized and untreated neurodevelopmental disorders, in the long-term disability arising from child maltreatment, and in the invisible harm done to children growing up in households shadowed by parental mental illness, domestic violence, poverty, and collective trauma. Part Eleven is an attempt to take this suffering seriously: to examine its causes, its clinical dimensions, its public health implications, and the responses that are needed, urgently, at clinical, community, and policy levels.

The chapters in this part move through several distinct but interconnected territories. They begin with conceptual foundations: the history and philosophy of child and adolescent psychiatry as a discipline, the science of developmental psychopathology, and the epidemiological picture in Bangladesh. They then examine specific clinical conditions, including emotional disorders, conduct disorders, the psychiatric consequences of child maltreatment, and the crisis of adolescent suicide. They explore the contexts in which children and adolescents develop: the school, the digital world, the family, and the community. They address special populations,

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including Rohingya children, street children, child laborers, and girls subjected to early and forced marriage. And they conclude with philosophical and public health analysis, clinical controversies, case studies, investigation protocols, and the connections to Part Twelve, which turns to geriatric psychiatry and the psychiatric care of older adults.

Throughout this part, the Bangladesh perspective is not a contextual supplement but the organizing frame. The epidemiology, the cultural dimensions of distress, the barriers to care, the available interventions, and the priorities for policy are all understood in their specifically Bangladeshi configurations. This does not mean ignoring global knowledge: the developmental sciences and the clinical evidence base for child and adolescent mental health interventions are international assets that belong to everyone. But it does mean refusing to treat global knowledge as automatically applicable without critical examination of what it means in the specific social, cultural, economic, and institutional context of Bangladesh.

CHAPTER ONE HUNDRED AND FORTY-EIGHT: FOUNDATIONS OF CHILD AND ADOLESCENT PSYCHIATRY: HISTORY, PHILOSOPHY, AND CONCEPTUAL FRAMEWORKS

148.1 The Emergence of Child and Adolescent Psychiatry as a Discipline

The formal recognition of child and adolescent psychiatry as a distinct medical specialty is a relatively recent development, though concern with the mental and emotional life of children goes back to the earliest written records of human civilization. Understanding the historical path through which this specialty developed helps to illuminate why it has the character it does today: why it is so deeply shaped by developmental psychology, why it is so concerned with the family and social context of the child, and why it has historically struggled, with varying success, to balance biological, psychological, and social perspectives.

In Western medicine before the nineteenth century, children were often treated as small adults, and their psychological suffering was addressed within the same frameworks as adult madness: confinement when behavior was severely disruptive, religious and moral interventions when behavior was seen as vicious, and medical treatment, of limited effectiveness, when physical causes were suspected. The conceptual recognition that childhood is a distinct developmental phase with its own psychological characteristics, vulnerabilities, and needs developed only gradually over the modern period, partly driven by the philosophical writings of figures like John Locke and Jean-Jacques Rousseau, who challenged the earlier view of children as miniature adults possessing an innate propensity toward sin and in need of rigid correction, and proposed instead that children were innocent, developmentally malleable, and shaped by the environments and experiences to which they were exposed.

The nineteenth century saw the emergence of several strands of thought and practice that eventually converged in the formation of child and adolescent psychiatry as a specialty. The development of educational psychology, concerned with understanding the cognitive and emotional capacities of children at different developmental stages, provided a conceptual

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framework for thinking about developmental variation and developmental delay. The child welfare movement, fueled by the Industrial Revolution's exploitation of child labor and by growing concern about the conditions of children in poverty, brought the circumstances of children's lives to public and political attention. The newly emerging discipline of scientific psychology, represented by figures like Wilhelm Wundt in Germany and William James in the United States, began to develop systematic methods for studying psychological processes, including in children. And in psychiatry, the growing interest in the origins of adult psychopathology in early childhood experience, stimulated above all by Freudian psychoanalysis, created an impetus for the study and treatment of psychological problems in childhood.

The first child guidance clinics in the United States were established in the 1920s and 1930s, initially focused primarily on delinquency and behavior problems in children, and staffed by multidisciplinary teams of psychiatrists, psychologists, and social workers. These clinics reflected both the psychoanalytic influence (with its emphasis on early experience and the therapeutic relationship) and the progressive social reform tradition (with its concern for the social conditions of children's lives). The World War Two period, with its massive displacement of children and the subsequent work of pioneers like Anna Freud, John Bowlby, and Donald Winnicott on the effects of separation and loss on young children, profoundly shaped the post-war development of child psychiatry, placing attachment, loss, and the mother-child relationship at the center of clinical and theoretical concern.

In Britain, the official recognition of child psychiatry as a medical specialty came in the post-war period, and Leo Kanner's description of early infantile autism in 1943, Michael Rutter's epidemiological studies on the Isle of Wight in the 1960s and 1970s, and the development of structured diagnostic instruments for children were landmark scientific contributions that helped establish child psychiatry on a solid empirical footing. The publication of the Isle of Wight studies, which demonstrated for the first time the population prevalence of psychiatric disorders in children in a community sample, was a critical moment in establishing the epidemiological basis of the field.

In Bangladesh, child and adolescent psychiatry as a formal discipline is very young. The establishment of a child and adolescent psychiatry unit at the National Institute of Mental Health (NIMH) in Dhaka represents the most significant institutional development in this field. The first child psychiatry training programs in Bangladesh began only in the first decade of the twenty-first century. The Bangabandhu Sheikh Mujib Medical University has developed postgraduate training in child and adolescent psychiatry, and a small but growing number of child psychiatrists have been trained. The field in Bangladesh exists in a state of constant tension between the enormous scale of unmet need, the radical inadequacy of existing resources, and the extraordinary commitment of the small group of professionals who have chosen to devote their careers to it.

148.2 Philosophical Foundations: What Is It to Be a Developing Person?

The philosophical underpinnings of child and adolescent psychiatry raise questions that are both fascinating and practically consequential. At the center of these questions is the nature of

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development itself: what does it mean to grow from an infant, without language, self-concept, or capacity for deliberate action, into an autonomous adult person capable of reflection, choice, and moral responsibility? What is the nature of psychological continuity across this transformation? And what are the ethical implications of the unique vulnerabilities and dependencies of children?

The philosophical concept of development has been understood in several different ways in the history of thought. The preformationist view, which dominated early modern thought, understood development as the unfolding of a predetermined plan: the child simply became more of what it already essentially was from conception. This view has obvious religious resonances, and traces of it can be found in contemporary genetic determinism, which sometimes implies that the psychological characteristics of the adult are essentially fixed in the genome. The epigenetic view, which has gained increasing empirical support, understands development as the active construction of phenotype through the interaction of genetic programs with environmental inputs: development is not the unfolding of a predetermined plan but the creation of something genuinely new through a process that is both constrained and opened by both genes and environment.

For child psychiatry, the epigenetic view is scientifically and clinically crucial. It implies that early experience genuinely matters, not because it merely accelerates or decelerates the expression of genetically determined traits, but because it shapes the developing organism in ways that have lasting consequences. It implies that interventions at early sensitive periods can have effects that would not be achievable later. And it implies that the conditions of children's lives, including the quality of their caregiving relationships, their exposure to adversity, their access to stimulation and education, and their social and material circumstances, are not merely background factors but are among the primary determinants of their mental health and developmental outcomes.

The philosopher of mind and developmental cognitive scientist Alison Gopnik has proposed a useful distinction between the child as a "lantern" and the adult as a "spotlight." Adults have focused attention that is efficient for purposeful goal-directed behavior: they spotlight what is relevant and ignore the rest. Children, particularly young children, have a more diffuse, exploratory, open attentional style that is exquisitely sensitive to novelty and difference: they illuminate the world broadly, noticing everything. This difference in cognitive style is not simply a matter of deficit (children being less capable than adults) but reflects a genuine functional specialization: the exploratory, associative cognition of childhood is adaptive for learning about the world, while the focused, executive cognition of adulthood is adaptive for acting on the world in pursuit of goals. For child psychiatry, this perspective is clinically important: it cautions against applying adult standards of attention, impulse control, and executive function to developing children, and it highlights the importance of play, exploration, and imaginative activity as developmentally essential rather than frivolous or merely recreational.

The philosophical concept of autonomy, which is central to the ethics of adult psychiatry, takes on a specifically developmental form in the context of children. Adults are presumed to have the capacity for autonomous decision-making unless there is specific evidence that this capacity is impaired. Children are, by contrast, in the process of developing this capacity, and the nature

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and extent of their autonomous agency changes substantially over the course of development. A five-year-old has genuine preferences and experiences and a rudimentary sense of self, but does not have the cognitive and emotional capacities to make complex decisions about medical treatment or living arrangements. A fifteen-year-old may have capacities approaching those of a young adult in some domains while still being highly susceptible to peer influence, short-term thinking, and the emotional volatility of adolescence in others. The ethical framework for child and adolescent psychiatry must navigate this developmental complexity, honoring the growing autonomy of the adolescent without abdicating the duty of care toward someone who is not yet fully formed as an autonomous agent.

In Bangladesh, the philosophical tensions around child autonomy take on a specific cultural form. The strongly collectivist and family-centered culture of Bangladesh means that decisions about children's lives, including decisions about mental health treatment, are typically made by families rather than by children. This is not simply a cultural failure to recognize children's rights: it reflects genuine values about the importance of family solidarity, intergenerational care, and the embedding of the individual in a web of mutual obligations. But it can create real tensions when the family's decisions do not reflect the child's best interests or when adolescents have views about their care that are systematically overridden. These tensions require sensitive navigation rather than the imposition of an abstract principle of individual autonomy that may have limited cultural resonance.

148.3 The Major Theoretical Frameworks in Child and Adolescent Psychiatry

The theoretical frameworks that guide child and adolescent psychiatry are largely those of the broader discipline, as described in Part One, but with specific elaborations shaped by the developmental nature of the field. Several frameworks are particularly important.

Developmental psychopathology, which will be examined in more depth in the next chapter, provides the overarching scientific framework for the field. It conceives of mental disorders in children and adolescents as emerging from the complex interaction of risk and protective factors across development, and it emphasizes the importance of developmental timing, trajectory, and context in understanding both the causes and the consequences of psychological problems.

Attachment theory, the legacy of John Bowlby, remains one of the most empirically productive frameworks in child and adolescent psychiatry. The quality of early attachment relationships, established in the first years of life between the infant and its primary caregivers, shapes the developing child's internal models of self and other, its strategies for regulating emotion, and its patterns of interpersonal engagement. Children with secure attachment histories tend to develop resilient emotional regulatory systems, positive self-concepts, and flexible interpersonal styles. Children with insecure or disorganized attachment histories tend to develop less adaptive regulatory strategies and are at increased risk for a wide range of mental health problems across the lifespan. The clinical application of attachment theory in child and adolescent psychiatry informs the assessment of family relationships, the understanding of the child's interpersonal behavior, and the design of interventions that work with the family system rather than treating the child in isolation from it.

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Ecological systems theory, proposed by the developmental psychologist Urie Bronfenbrenner in the 1970s and subsequently elaborated, conceives of the child as embedded in a nested set of systems: the microsystem of immediate relationships and settings (family, school, peer group); the mesosystem of interactions between microsystems; the exosystem of settings that influence the child indirectly (parents' workplaces, community services); the macrosystem of cultural values, norms, and ideologies; and the chronosystem of historical change over time. This framework has been enormously useful in guiding research and intervention in child mental health, because it explicitly directs attention to the multiple levels at which influences on development operate and resists the reduction of developmental outcomes to any single level of explanation.

In Bangladesh, Bronfenbrenner's ecological framework is particularly apt. The mental health of Bangladeshi children is shaped not only by the quality of their immediate family relationships (microsystem) but by the functioning of the school system and its relationship with the family (mesosystem), by the economic conditions affecting parental stress and household resources (exosystem), by the cultural norms around gender, authority, education, and emotional expression (macrosystem), and by the massive social transformations of recent decades including urbanization, migration, climate change, and political upheaval (chronosystem). Understanding child mental health in Bangladesh requires attending to all these levels, not just the individual psychopathology of the child.

Family systems theory, originating in the work of Murray Bowen, Salvador Minuchin, Jay Haley, and their contemporaries in the 1950s through 1970s, understands psychological problems in children as expressions of disturbances in the family system rather than simply as disorders located within the individual child. On this view, a child's conduct problems may be better understood as a response to parental conflict or family dysfunction than as a property of the child's individual psychology. This framework has strong clinical utility in Bangladesh, where the family is the primary social unit and where family dynamics profoundly shape both the development of psychological problems and the pathways to their resolution.

Cognitive-developmental theory, associated above all with Jean Piaget, provides a framework for understanding the development of cognitive capacities through which children understand their world, including their understanding of their own mental states and those of others. The development of "theory of mind," the capacity to attribute mental states to others and to understand that others have beliefs, desires, and intentions that may differ from one's own, is a critical milestone in social development that typically emerges between the ages of three and five. Theory of mind deficits are central to autism spectrum disorder. Understanding cognitive development is essential for assessing children's understanding of their illness, their capacity to engage in treatment, and the age-appropriate targets of psychotherapeutic intervention.

Neurodevelopmental perspectives, increasingly central to contemporary child and adolescent psychiatry, understand both typical and atypical development as expressions of the brain's programmed developmental trajectory, modulated by genetic factors and environmental inputs including early experience, nutrition, environmental toxins, infection, and psychosocial stress. The neurodevelopmental perspective has been particularly productive in understanding

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conditions like autism spectrum disorder, ADHD, and specific learning disabilities, but it is increasingly applied to the full range of child and adolescent mental disorders.

148.4 Historical and Cultural Constructions of Childhood in Bangladesh

No serious account of child and adolescent mental health in Bangladesh can avoid engaging with the social and cultural construction of childhood in this specific context. Childhood is not simply a biological fact; it is also a cultural category, and the ways in which children are perceived, treated, valued, and educated in any society reflect its cultural values and social organization.

In Bangladesh, as in much of South Asia, the cultural construction of childhood has historically reflected a set of values centered on family obligation, respect for elders, educational achievement as a pathway to family advancement, gender differentiation from an early age, and the expectation that children will progressively take on productive roles within the household. Childhood in traditional Bangladesh was not a protected sphere of play and individual development in the Western middle-class sense; it was a period of gradual socialization into the roles and responsibilities of adult life, mediated through family and community.

This cultural construction of childhood has practical consequences for mental health. The expectation of obedience and the subordination of individual preferences to family decisions means that children's emotional needs may not be recognized or given priority. The strong gender differentiation, which assigns girls to domestic roles and boys to educational and economic ones, shapes the developmental experiences and vulnerabilities of girls in ways that have profound mental health consequences, including high rates of early marriage, restricted mobility and social participation, and vulnerability to domestic and sexual violence. The expectation of educational achievement creates enormous pressure, particularly in the competitive urban environment, which, as the recent evidence on student suicide demonstrates, can be literally lethal for some young people.

At the same time, the Bangladeshi construction of childhood contains genuine strengths from a mental health perspective. Strong family cohesion and kinship networks provide a dense web of social support for children. The cultural valorization of children as gifts and sources of joy means that children, particularly young children, are typically surrounded by warmth and affection within the family. The multi-generational household, though increasingly giving way to nuclear family arrangements in urban settings, provides children with diverse adult relationships and multiple sources of care. Religious frameworks, both Islamic and folk, provide children with a sense of meaning, belonging, and cosmic order that can be protective against some forms of psychological distress.

The contemporary transformation of Bangladeshi childhood, driven by rapid urbanization, globalization, digital technology, and economic change, is creating new mental health challenges alongside new opportunities. Children growing up in Dhaka's slums experience the stresses of poverty, crowding, and social marginalization in an urban environment rather than the relative simplicity of rural village life. Children in the growing middle class experience the pressure of intense academic competition and the identity challenges of navigating between

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traditional Bangladeshi values and the global youth culture that reaches them through their smartphones. And all children in Bangladesh are growing up in the shadow of climate change, which is progressively transforming the environment, the economy, and the life circumstances of millions of Bangladeshi families.

CHAPTER ONE HUNDRED AND FORTY-NINE: DEVELOPMENTAL PSYCHOPATHOLOGY: THE SCIENCE OF HOW MENTAL DISORDERS EMERGE ACROSS THE LIFE COURSE

149.1 What Is Developmental Psychopathology?

Developmental psychopathology is the scientific study of the development of mental disorders over the life course: how they emerge, how they are maintained, how they change over time, and how they are related to normal developmental processes. It is not simply the application of developmental psychology to mental disorders, though it draws heavily on that discipline. Rather, it is a distinct scientific framework that treats the understanding of atypical development as inseparable from the understanding of typical development, and that conceives of mental disorders as outcomes of developmental processes rather than as static diseases that individuals either have or do not have.

The field emerged as a distinct discipline in the 1970s and 1980s, associated particularly with the work of Dante Cicchetti, Alan Sroufe, Byron Egeland, and Norman Garmezy. It was shaped by the convergence of several intellectual streams: the longitudinal studies of child development that had been accumulating since the mid-twentieth century, the emerging science of attachment and its developmental consequences, the growing evidence for the continuity of psychopathology across the life course, and the recognition that the study of risk and resilience required both a developmental and an ecological perspective.

Two central organizing principles of developmental psychopathology deserve particular attention: multifinality and equifinality. Multifinality refers to the observation that the same risk factor or early experience can lead to very different outcomes in different individuals. Child maltreatment, for example, can lead to PTSD, depression, borderline personality disorder, antisocial behavior, or to no diagnosable disorder, depending on the interplay of multiple biological, psychological, and social factors. Equifinality refers to the observation that the same outcome can arise through very different developmental pathways. Depression in adolescence, for example, can arise from a genetic predisposition in the absence of significant adversity, from a history of early attachment insecurity, from exposure to severe trauma, from bullying and social exclusion, or from the biological changes of puberty in combination with psychosocial stress. These principles have profound implications for clinical practice: they counsel against assuming that the same intervention will work for everyone with the same diagnosis, and they argue for thorough assessment of the specific developmental pathway through which an individual's problems have emerged.

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The concept of "sensitive periods" in development, sometimes also called "critical periods," refers to phases in development during which the developing brain is particularly responsive to specific environmental inputs. The evidence for sensitive periods is strongest in the domain of sensory development (vision, hearing, language), but there is growing evidence for sensitive periods in the development of stress response systems, social cognitive capacities, and emotional regulatory systems. From a mental health perspective, the most important sensitive period is arguably the first three years of life, during which the basic architecture of the stress response system and the social brain is being laid down in profound dependence on the quality of early caregiving. Adversity during this period, including neglect, abuse, and maternal depression, can produce lasting changes in the functioning of the hypothalamic-pituitary-adrenal axis, the autonomic nervous system, and the neural circuits mediating emotion regulation and social engagement.

In Bangladesh, where rates of maternal depression are high, where poverty exposes many young children to chronic stress, and where child maltreatment in its various forms is prevalent, the developmental consequences of early adversity are a major and largely unaddressed public health concern.

149.2 Risk Factors, Protective Factors, and Resilience in Bangladeshi Children

The developmental psychopathology framework organizes its understanding of mental disorder around the concepts of risk factors, protective factors, and resilience. A risk factor is any characteristic or circumstance that increases the probability that a child will develop a mental disorder. A protective factor is any characteristic or circumstance that decreases this probability, either by reducing exposure to risk or by buffering the effect of risk when it is encountered. Resilience refers to positive adaptation in the context of significant adversity: the capacity to maintain or regain psychological functioning despite exposure to conditions that disrupt or impair functioning in many children.

In the Bangladeshi context, the risk factors for child mental health problems are numerous and their burden is heavy. Poverty is the most pervasive and powerful: it creates chronic stress within families, impairs parental functioning through its effects on mental health and social cohesion, restricts access to nutrition, education, and health care, exposes children to violence and crowding, and increases vulnerability to disasters and displacement. Parental mental illness, particularly maternal depression, is a major risk factor whose impact operates primarily through its effects on the quality of parenting in the first years of life. Mothers with untreated depression are less emotionally available, less responsive to infant signals, more negative and less warm in their interactions, and more likely to engage in harsh or inconsistent parenting practices. The multigenerational transmission of mental health risk through impaired parenting is one of the most well-documented pathways in developmental psychopathology, and it is particularly concerning in Bangladesh given the high prevalence of untreated maternal depression.

Exposure to violence is a pervasive risk factor in Bangladesh: intimate partner violence in the home, physical punishment as a normative child-rearing practice, corporal punishment and humiliation in schools, and community violence in densely populated urban settings all

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contribute to children's exposure to violence. The evidence that exposure to violence in early childhood and across development substantially increases risk for a wide range of mental disorders, including PTSD, depression, conduct disorder, and substance use disorders, is robust and consistent.

Child labor, which remains widespread in Bangladesh despite legal prohibitions, represents both a symptom of poverty and a risk factor in its own right. Children engaged in hazardous forms of labor, including domestic service, garment work, waste recycling, and transportation, are exposed to physical hazards, adult supervision deficits, educational deprivation, and psychosocial stressors associated with working in adult environments from a young age. The mental health consequences of child labor have been less studied than its physical health consequences, but include elevated rates of depression, anxiety, PTSD, and conduct problems.

Early marriage for girls, which remains prevalent in Bangladesh despite its illegality, is one of the most profound developmental risk factors for the mental health of Bangladeshi girls. Bangladesh has one of the highest rates of child marriage in the world. Marriages before the age of 18 expose girls to multiple compounded risks: discontinuation of education and its protective effects, early and frequent pregnancy with its attendant health risks and emotional demands, entry into an adult domestic role without the developmental preparation for it, social isolation from peers, exposure to the stressors of in-law relationships, and high risk of intimate partner violence. The mental health consequences are severe and well-documented, including high rates of depression, anxiety, PTSD, and suicidal behavior.

Natural disasters and climate change represent a set of risk factors that are particularly acute in Bangladesh. The recurrent cyclones, floods, droughts, and river bank erosion that characterize the Bangladeshi climate expose millions of children to acute trauma and to the chronic stresses of livelihood loss, displacement, and environmental degradation. The mental health consequences of disaster exposure in children include PTSD, complicated grief, depression, behavioral problems, and the disruption of educational trajectories. In the context of progressive climate change, the cumulative burden of disaster exposure and chronic climate stress on Bangladeshi children's mental health is a growing concern that has begun to attract research attention.

The protective factors against mental health problems in Bangladeshi children are also real and important. Strong family cohesion and supportive parenting provide the most powerful protection against the development of mental disorders in the face of adversity. School attendance, particularly in high-quality schools where children are safe and engaged, is both intrinsically protective (through its cognitive, social, and emotional benefits) and a proxy for access to a wider range of protective resources. Religious belief and community belonging provide meaning, social support, and a sense of moral order that can buffer psychological distress. Physical health and adequate nutrition support the neurological development that underlies resilience. And, increasingly, specific skill-based interventions designed to build children's emotional literacy, problem-solving capacities, and social skills are being recognized as modifiable protective factors amenable to programmatic intervention.

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Resilience research in Bangladesh is still in its early stages, but several studies have documented the extraordinary capacity of Bangladeshi children who have faced severe adversity, including disaster exposure, displacement, and extreme poverty, to maintain psychological functioning and developmental progress when adequate social support is available. This evidence of resilience is not grounds for complacency about the mental health needs of children in adversity; it does not mean that adversity is harmless or that children do not need protection and support. But it does suggest that interventions aimed at building social support, family cohesion, and children's own coping capacities can be effective even in the context of persistent adversity.

149.3 The Development of Specific Mental Disorders Across Childhood and Adolescence

Developmental psychopathology proposes that the major psychiatric conditions seen in children and adolescents do not simply appear at a given point in development but emerge through developmental trajectories that can often be traced back to earlier markers, precursors, and risk configurations. Understanding these developmental trajectories has important implications both for early identification and for the timing and targeting of interventions.

The trajectory of conduct disorder and later antisocial behavior is one of the best-studied in developmental psychopathology. The "two-pathway" model, initially proposed by the developmental psychopathologist Terrie Moffitt and subsequently replicated across many studies, distinguishes between a "childhood-onset" pathway, in which antisocial and aggressive behavior begins before puberty and tends to be more severe, more persistent, and more associated with neurodevelopmental risk factors, and an "adolescence-limited" pathway, in which antisocial behavior emerges in adolescence in the context of peer influence and the social dynamics of the adolescent period and tends to be less severe and more transient. This distinction has important clinical implications: children in the childhood-onset pathway need early, intensive intervention addressing both their own neurodevelopmental vulnerabilities and the family and social contexts that are maintaining their behavior, while adolescents in the adolescence-limited pathway may respond to less intensive interventions targeting peer relationships and decision-making.

The developmental trajectory of depressive disorders in children and adolescents involves a striking gender transition. Before puberty, rates of depression are roughly equal between boys and girls, with some studies finding slightly higher rates in boys. After puberty, rates in girls rise sharply, reaching approximately twice the male rate by mid-adolescence and maintaining this differential throughout adulthood. The causes of this gender shift are incompletely understood but likely involve the combination of hormonal changes associated with puberty, the different social experiences and social stressors faced by girls (including increased exposure to sexual harassment, objectification, and interpersonal violence), and the different emotional regulation styles and coping strategies of girls, which tend toward rumination, compared to the more externalizing styles of boys.

In Bangladesh, the gender shift in adolescent depression occurs against a background of much higher general risk for girls, driven by the specific social adversities associated with their gender role. The transition from childhood to adolescence for many Bangladeshi girls involves a narrowing rather than an expansion of freedom and opportunity: increased purdah restrictions,

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preparation for marriage, withdrawal from school, and increasing exposure to the stressors of gender-based violence and discrimination. It would be remarkable if this social transition were not accompanied by rising rates of depression and anxiety, and the evidence confirms that it is.

The development of anxiety disorders in children shows a characteristic age-specific pattern in which different forms of anxiety disorder have their peak emergence at different developmental stages. Separation anxiety disorder, the most common anxiety disorder in young children, typically emerges in the preschool period and early primary school years, when the developmental task of managing separation from attachment figures is most salient. Specific phobias have their peak onset in the middle childhood years. Social anxiety disorder typically emerges in early to mid-adolescence, coinciding with the developmental period when peer relationships and social evaluation become most intensely important. Panic disorder has its peak onset in late adolescence and early adulthood. Understanding these developmental patterns helps clinicians recognize age-appropriate fears from clinically significant anxiety disorders and guides the timing of screening and intervention efforts.

149.4 Puberty, Neurodevelopment, and Adolescent Brain Science

Adolescence is not simply a social construction or a cultural phenomenon; it is a period of profound biological transformation. The neuroscientific study of adolescent brain development, which has advanced dramatically in the first two decades of the twenty-first century, has revealed a picture of the adolescent brain that is more complex, more interesting, and in some ways more concerning than earlier accounts had suggested.

The key insight from adolescent neuroscience is the asynchrony between different developmental trajectories in the brain. The limbic system, including the amygdala and the striatum (particularly the nucleus accumbens, the brain's primary reward center), undergoes significant development in early adolescence, driven partly by pubertal hormones. This produces an amplified emotional reactivity and heightened sensitivity to reward, peer social evaluation, and novelty that is characteristic of early adolescence. The prefrontal cortex, by contrast, which mediates executive functions including impulse control, planning, risk assessment, and the regulation of emotional responses, does not complete its development until the mid-twenties. This asynchrony produces a maturational gap: the adolescent has a highly activated emotional and reward-seeking system but incomplete regulatory capacity to modulate its effects on behavior.

This neurodevelopmental picture helps explain several aspects of adolescent behavior that have puzzled adults throughout history: the heightened risk-taking, the intense peer orientation, the emotional volatility, the tendency to prioritize immediate rewards over distant consequences, and the susceptibility to peer pressure. These are not simply signs of moral weakness or bad parenting; they are expressions of a neurodevelopmental stage that has its own logic and its own adaptive functions. The heightened reward sensitivity and novelty-seeking of adolescence may be evolutionarily adapted to promote exploration, social learning, and the development of independence from the family of origin. The risk is that in contemporary environments, where high-potency substances, digital gaming, and social media platforms are designed to exploit exactly the reward circuits that are most active in adolescence, the adaptive functions of adolescent brain development can be hijacked for harm.

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From a public health perspective in Bangladesh, the adolescent brain science has several important implications. It provides a compelling rationale for the prevention of substance use initiation before age 25, since the developing adolescent brain is more vulnerable to the neuroadaptive effects of substances and more likely to develop substance use disorders when exposure begins in adolescence. It explains the heightened suicide risk associated with adolescent impulsivity, since the reduced prefrontal regulation of the adolescent period may amplify suicidal behavior when other risk factors are present. It highlights the particular importance of peer relationships and peer norms for adolescent behavior, suggesting that peer-based approaches to mental health promotion in schools may be particularly effective. And it argues for a compassionate and informed response to adolescent behavior problems that recognizes the neurodevelopmental context rather than treating all problematic behavior as simply the product of character defects or bad choices.

CHAPTER ONE HUNDRED AND FIFTY: EPIDEMIOLOGY OF CHILD AND ADOLESCENT MENTAL DISORDERS IN BANGLADESH

150.1 The Evidence Base: Available Studies and Their Limitations

The epidemiological evidence on the prevalence and distribution of mental disorders in Bangladeshi children and adolescents has grown substantially in recent years, though it remains limited in scope and quality relative to the evidence base in high-income countries. Several important sources of data are now available, and together they provide a reasonably consistent picture, even if many important questions remain unanswered.

The National Mental Health Survey Bangladesh 2019 is the most comprehensive nationally representative source of data. It used the Development and Well-Being Assessment (DAWBA), adapted and validated for the Bangladeshi context, to assess the prevalence of mental disorders in children aged 7 to 17 years in a sample of 1,738 children. The survey found an overall point prevalence of any mental disorder of approximately 13.6 percent. The most common conditions were conduct disorders (approximately 5.3 percent), emotional disorders including anxiety and depression (approximately 3.2 percent), hyperkinetic disorders encompassing what would be diagnosed as ADHD (approximately 2.9 percent), and mixed disorders (approximately 1.8 percent). Intellectual disability was identified in approximately 2.8 percent. Other conditions including autism spectrum disorder, tic disorders, and eating disorders accounted for smaller proportions.

An earlier community study in Bangladesh, published in 2005 and using the DAWBA in samples drawn from rural, urban, and urban slum areas, found a prevalence of any ICD-10 diagnosis of approximately 15 percent among children aged 5 to 10 years. Conduct disorder was the most common diagnosis, and children from the urban slum area had particularly high rates of serious behavioral problems. This study, though its sample was geographically limited, established the feasibility of systematic epidemiological assessment of child mental health in Bangladesh and provided the first community-based prevalence estimates.

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The 2024 study by Al-Mamun and colleagues, published in Social Psychiatry and Psychiatric Epidemiology, examined the prevalence of emotional and behavioral problems in a larger sample of Bangladeshi adolescents and found that conduct disorder had a prevalence of approximately 21.7 percent, emotional disorder approximately 9.1 percent, hyperactivity approximately 6.2 percent, and peer relationship problems approximately 15.1 percent. These figures are higher than those from the 2019 national survey for several categories, which likely reflects both methodological differences and genuine variation across the samples, as well as the possibility that prevalence has increased in the post-COVID-19 period.

The COVID-19 pandemic clearly accelerated child and adolescent mental health problems in Bangladesh. A study examining psychiatric disorder prevalence before and during the first national lockdown found that the rate of any predictive psychiatric disorder increased from 20.5 percent before lockdown to 39.7 percent during lockdown, with the difference being highly statistically significant. This dramatic doubling of psychiatric disorder prevalence within a period of weeks reflects both the direct stressors of lockdown (school closure, loss of social contact, disrupted routines, parental anxiety and economic distress transmitted to children) and the loss of the school and peer environments that provide structure, social connection, and protection for many children.

These epidemiological figures require several important contextual notes. First, the instruments used in Bangladesh, however carefully adapted, were developed in Western settings and may not fully capture culturally specific presentations of distress. Second, most studies have used parent-report or teacher-report instruments, which may miss internalizing problems (depression and anxiety) that are not visible to observers. Third, there is very likely substantial geographic variation in prevalence, with urban slum populations having higher rates than rural populations or urban middle-class populations. Fourth, the coverage of the most vulnerable populations, including street children, child laborers, children in residential care institutions, and Rohingya children, is minimal in existing epidemiological studies.

150.2 Specific Epidemiological Findings for Major Conditions

Conduct disorder, the most prevalent identified condition in the Bangladeshi child and adolescent epidemiology, encompasses patterns of persistent aggressive, destructive, deceitful, or seriously rule-violating behavior. Its high prevalence in Bangladesh reflects the convergence of multiple risk factors: poverty and its associated stressors, exposure to harsh parenting and domestic violence, peer deviance, inadequate school environments, and the limited availability of prosocial alternatives for children from disadvantaged backgrounds. The detection and management of conduct disorder in Bangladesh is complicated by the cultural normalization of physical punishment as a parenting technique and the tendency to attribute problematic behavior in boys to moral weakness rather than to recognizable clinical conditions. The tendency of boys with conduct disorder to eventually come into conflict with the law, and the inadequacy of juvenile justice services to respond therapeutically rather than punitively, represents a serious gap in the national child protection system.

Depression in Bangladeshi children and adolescents has received growing research attention, and the emerging picture is one of substantial and underrecognized burden. Studies of school-

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going adolescents in Bangladesh have found rates of depressive symptoms ranging from 20 to 40 percent, depending on the screening instrument and sample. The 2022 study by Anjum and colleagues, examining depressive symptoms among urban and semi-urban school adolescents, found rates that were substantially higher than equivalent studies in high-income countries, particularly among girls. Academic pressure, family conflict, and early marriage for girls were among the strongest associated factors. The high rates of parental mental illness, particularly maternal depression, likely contribute to the elevated prevalence of depression in Bangladeshi children through both genetic and environmental pathways.

Anxiety disorders in Bangladeshi children and adolescents are less well documented than depression, partly because the somatic presentation of anxiety (headache, abdominal pain, palpitations) tends to lead children and their families to seek physical rather than mental health care. Studies that have used dimensional measures of anxiety symptoms rather than diagnostic interviews have generally found rates of clinically significant anxiety in the range of 15 to 30 percent among school children and adolescents. Social anxiety, which is particularly relevant in the context of the intense social hierarchies and performance pressures of Bangladeshi schools, is likely to be common but is rarely identified as a clinical problem.

ADHD, covered in some depth in Part Seven in the context of neurodevelopmental disorders, has a prevalence in Bangladeshi children estimated at approximately 3 to 7 percent depending on criteria and assessment method, consistent with global estimates. The recognition and management of ADHD in Bangladesh has improved somewhat with the establishment of child psychiatry services, but the availability of appropriate assessment, the regulatory status of stimulant medications, and the training of teachers to understand and manage children with ADHD in classroom settings all remain significant gaps.

Autism spectrum disorder was covered in detail in Part Seven. Here it is worth noting the specific epidemiological challenge of ASD in Bangladesh: available prevalence studies suggest rates below global estimates, which almost certainly reflects underdiagnosis and misdiagnosis rather than genuine absence, given that ASD is a biologically grounded neurodevelopmental condition with no known reason to be substantially less common in Bangladesh than elsewhere. The misattribution of autism-associated behaviors to spiritual causes, the preference for traditional healing in the first instance, and the absence of standardized diagnostic tools adapted for the Bangladeshi context all contribute to underidentification.

Post-traumatic stress disorder in children deserves special mention given Bangladesh's extraordinary burden of disaster and conflict exposure. Studies of children following major cyclones, floods, and in the context of the Rohingya crisis have consistently found high rates of PTSD. A study following Cyclone Sidr in 2007 found PTSD rates of approximately 20 percent in children from affected communities. Studies of Rohingya children in the Cox's Bazar camps have found even higher rates, with some studies reporting PTSD symptoms in over 40 percent of children assessed. These figures, representing hundreds of thousands of children, constitute a massive and largely untreated mental health burden.

150.3 Adolescent Suicide: The Crisis in Numbers

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The data on adolescent suicide in Bangladesh constitute a public health emergency that demands serious attention. As documented in a landmark 2025 study published in Global Mental Health, the epidemiology of adolescent suicidal behavior in Bangladesh is deeply concerning. In 2022 alone, 446 students died by suicide, with 340 of them being school-going students. In the first eight months of 2023, a further 361 student suicides were recorded, with secondary school students accounting for 46.8 percent of cases.

The 2024 study by Himel and colleagues, published in Health Science Reports, analyzed 984 student suicide cases identified from 150 online news portals in Bangladesh over the post-pandemic period of 2022 to 2023, providing the most comprehensive picture available. Several findings deserve close attention. Female students accounted for 61 percent of cases and males 39 percent, a gender pattern that is atypical by global standards and reflects the specific vulnerabilities of Bangladeshi girls and young women. The majority of cases, 72.5 percent, involved students aged 13 to 19 years, with secondary school students representing 44.9 percent of all cases. Hanging was the most common method, accounting for 79.7 percent of deaths. The major precipitating causes identified from news reports included emotional distress (28 percent), romantic relationship problems (19.5 percent), academic pressure (8.4 percent), family problems (8.1 percent), mental instability (7 percent), and sexual harassment (3.3 percent). Dhaka division reported the highest proportion of cases at 27.8 percent.

A further dimension of this crisis is the association with public examination results. A 2026 study in the journal MultiPsych examined suicides occurring after the publication of SSC (Secondary School Certificate) and HSC (Higher Secondary Certificate) examination results and found that the period following result publication was associated with a significant spike in student suicides, with younger adolescents in the 15 to 17 age group being particularly vulnerable. This finding illustrates the lethal intersection of academic pressure, identity investment in examination performance, family honor stakes, and the impulsive suicidal behavior associated with the adolescent neurodevelopmental profile.

These numbers likely substantially underestimate the true burden of adolescent suicidal behavior in Bangladesh. Suicide in Bangladesh is systematically underreported for several reasons: deaths by suicide are often recorded as accidental deaths by families who wish to avoid the stigma associated with suicide and the complications of police investigation; reporting systems are weak particularly in rural areas; and the religious taboo against suicide (suicide is haram in Islam) creates powerful motivations to conceal suicide deaths. Studies using population-based verbal autopsy methods in some rural areas have found suicide rates several times higher than official figures, suggesting that the true national burden is much greater than reported statistics indicate.

The community and population-based epidemiology of suicidal ideation and non-fatal self-harm provides an additional window onto this crisis. A 2025 study of rural adolescents in Narail district of southern Bangladesh found that a substantial proportion of secondary school students reported lifetime suicidal ideation, with associated factors including female gender, depression, family conflict, and academic failure. A 2024 study using the Global School-based Student Health Survey found that suicidal ideation and suicide attempts were prevalent among school-

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going adolescents, with female gender, physical violence exposure, and feeling lonely all independently associated with higher rates.

The implications of this evidence are discussed in detail in Chapter 155. Here the key point is that adolescent suicide and self-harm in Bangladesh is not a marginal phenomenon affecting a tiny proportion of young people: it is a major, growing, and incompletely understood public health crisis that demands a comprehensive and sustained response at clinical, educational, family, and policy levels.

CHAPTER ONE HUNDRED AND FIFTY-ONE: ASSESSMENT IN CHILD AND ADOLESCENT PSYCHIATRY IN BANGLADESH

151.1 The Principles and Challenges of Child Psychiatric Assessment

The assessment of children and adolescents in a psychiatric context differs from adult assessment in several fundamental ways. The child is not a passive recipient of assessment but an active participant whose developmental capacities, motivations, and behavioral tendencies shape what is possible in the assessment encounter. The family is not simply a source of background information but an integral part of the system that the clinician is assessing and, ultimately, working with. The informant problem, the fact that children themselves, their parents, and their teachers may give very different accounts of the same child's behavior and functioning, is a persistent methodological and clinical challenge. And the developmental context means that behaviors that would be pathological in an adult may be age-appropriate in a child, while other behaviors that would be expected in an adult may be red flags for developmental difficulty in a child.

The child psychiatric assessment typically involves several components: a detailed developmental history covering pregnancy, birth, early development, educational history, and health history; a family history including psychiatric illness, substance use, and significant social stressors; a description of the presenting problems including their onset, duration, severity, context, and impact on functioning in multiple settings; direct observation and interaction with the child; and standardized assessment tools appropriate to the child's age and the nature of the presenting problem.

In Bangladesh, the assessment context presents specific challenges. The family is typically the primary informant, and family members' understanding of the child's problems may be filtered through cultural frameworks (spiritual attribution, the belief that emotional problems are caused by evil eye or jinn possession) that need to be elicited sensitively and engaged with rather than dismissed. The child themselves may have limited language for discussing emotional experience, particularly in rural areas where the vocabulary of mental health and emotional states is less developed than in the middle-class urban environment. Stigma may lead families to minimize or deny the severity of problems, fearing the consequences for the child's educational and marital prospects.

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Direct assessment of children in Bangladesh requires culturally adapted approaches. Play-based assessment, in which the clinician observes the child's spontaneous play behavior as a window into their emotional and relational world, is useful with younger children and requires minimal language. Drawing activities, including asking children to draw their family, their school, a dream, and a wish, can provide rich material for assessment without requiring explicit verbal discussion of difficult topics. For adolescents, the assessment relationship requires particular sensitivity to issues of confidentiality (adolescents will often not disclose important information if they believe it will be passed directly to their parents), trust, and the adolescent's own formulation of their difficulties.

151.2 Standardized Assessment Tools: Validated Instruments for Bangladesh

The development and validation of standardized assessment instruments for use in the Bangladeshi cultural and linguistic context is an ongoing priority. Several instruments have been validated or adapted for use in Bangladesh.

The Development and Well-Being Assessment (DAWBA) is a comprehensive child psychiatric assessment tool designed to generate ICD and DSM diagnoses through structured interviews with parents, teachers, and children. A Bangla translation and adaptation was developed and validated in a study comparing DAWBA diagnoses with routine clinical diagnoses at a child mental health service, finding substantial agreement with kappa values in the range of 0.63 to 0.94 for different diagnostic categories. The DAWBA has been used in national epidemiological studies and provides the most comprehensive diagnostic picture available.

The Strengths and Difficulties Questionnaire (SDQ) is a widely used brief screening instrument for emotional and behavioral problems in children and adolescents aged 3 to 16. It covers five domains: emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behavior. The SDQ has been translated into Bangla and used in multiple research studies in Bangladesh, and it has the advantage of having parent, teacher, and self-report versions, addressing the informant problem by systematically gathering information from multiple perspectives. The SDQ is feasible for use in primary care and school settings by non-specialist workers with appropriate training.

The Childhood Trauma Questionnaire (CTQ) in its adapted Bangla version has been used to assess the history and severity of child maltreatment including physical, emotional, and sexual abuse and physical and emotional neglect. This instrument is important given the high prevalence of child maltreatment in Bangladesh and the need to assess trauma history systematically in children presenting with a wide range of psychiatric complaints.

The Children's Depression Inventory (CDI) and the Revised Children's Anxiety and Depression Scale (RCADS) have been used in research contexts in Bangladesh, though their routine clinical use outside specialized centers is limited. The development of simple, practical screening tools for depression and anxiety in adolescents that can be used in school settings or primary care by non-specialist workers is a priority for the field.

151.3 Diagnostic Formulation in Child and Adolescent Psychiatry

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The diagnostic process in child and adolescent psychiatry aims not simply to assign a diagnostic label but to produce a comprehensive formulation of the child's problems. A good clinical formulation is a narrative account that integrates the child's presenting symptoms within an understanding of the developmental history, family context, social circumstances, cultural dimensions, and the interplay of predisposing, precipitating, and perpetuating factors that together explain why this particular child is experiencing these particular difficulties at this particular time.

A widely used formulation framework in child and adolescent psychiatry is the "5Ps" model: predisposing factors (biological and psychological vulnerabilities, including genetic risk, prenatal insults, early developmental adversity, and temperamental characteristics that increase risk); precipitating factors (recent events or changes that triggered the current problem, including traumatic events, family disruptions, and academic stressors); perpetuating factors (current factors that maintain the problem, including dysfunctional family dynamics, ongoing adversity, maladaptive coping behaviors, and the reinforcement of symptoms by family responses); protective factors (strengths and resources in the child, family, and environment that support recovery); and presenting problem (the specific symptoms and functional impairments that constitute the reason for referral).

In Bangladesh, the formulation must also systematically address the cultural context: the explanatory model held by the family, the role of traditional healing in the child's care trajectory, the cultural factors that may be maintaining the problem, the cultural resources that can be mobilized as part of the treatment plan, and the broader social determinants, including poverty, gender inequality, migration, and disaster exposure, that are relevant to this child's situation.

151.4 Investigation Protocols in Child and Adolescent Psychiatry in Bangladesh

The investigation of psychiatric disorders in children and adolescents in Bangladesh must be calibrated to the clinical context and the specific presenting problem. In most cases, the psychiatric assessment itself provides the primary evidence base for diagnosis and formulation, and investigations are directed at excluding organic causes where these are in the differential diagnosis, at assessing the physical health consequences of the psychiatric disorder, and at establishing a baseline before treatment.

For children presenting with intellectual disability or global developmental delay, a structured investigation protocol is important. Full blood count, thyroid function tests, and serum lead level address potentially treatable biological causes of developmental delay. Metabolic screening for inborn errors of metabolism may be indicated in cases with specific clinical features (dysmorphology, organomegaly, failure to thrive, episodic deterioration). Chromosomal microarray analysis or at minimum conventional karyotyping is indicated where a genetic syndrome is suspected. Brain MRI may be indicated where focal neurological signs, epilepsy, or specific dysmorphic features suggest structural brain pathology. Hearing assessment is essential, since undetected hearing impairment is a common and correctable cause of language delay and behavioral problems.

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For children presenting with psychotic symptoms, a full medical evaluation is important to exclude treatable organic causes of psychosis in children, which are more common than in adults. This includes thyroid function, autoimmune markers (anti-NMDA receptor antibodies and other autoimmune encephalitis markers are an important differential diagnosis for new-onset psychosis in children and adolescents), metabolic screen, urinalysis, and brain MRI.

For children presenting with conduct disorder and aggression, the investigation protocol is primarily clinical, but specific conditions that can present with behavioral dyscontrol should be excluded: temporal lobe epilepsy (EEG), thyroid dysfunction, and developmental disorders including ADHD and unrecognized intellectual disability.

For adolescents presenting with depression or anxiety, investigation focuses primarily on excluding organic causes. Thyroid function is the most important single test, since both hypothyroidism and hyperthyroidism can present with mood and anxiety symptoms. Hemoglobin and iron studies may be relevant given the high prevalence of iron-deficiency anemia in Bangladeshi adolescents. Urine drug screen is appropriate where substance use is suspected as a contributing factor.

CHAPTER ONE HUNDRED AND FIFTY-TWO: EMOTIONAL DISORDERS IN CHILDREN AND ADOLESCENTS: ANXIETY, DEPRESSION, AND THE LANDSCAPE OF INTERNALIZING PROBLEMS

152.1 The Internalizing Spectrum: Overview and Clinical Significance

Emotional disorders in children and adolescents, encompassing the range of anxiety and depressive conditions, are grouped by developmental psychopathologists under the broader category of "internalizing problems," reflecting their characteristic phenomenology of inner distress, social withdrawal, and self-directed negative affect. In contrast to the "externalizing problems" of conduct disorder and ADHD, which are typically more visible to observers and more likely to generate clinical referral, internalizing problems tend to be hidden, either because the child does not have the language or the permission to communicate their distress or because the distress is directed inward in ways that do not produce the disruptive behavior that brings children to clinical attention.

This invisibility of internalizing problems is a major clinical problem in Bangladesh. A child who sits silently at the back of a crowded classroom, performing adequately on examinations but feeling hopeless, anxious, and profoundly alone, may go years without having their difficulties recognized. A young girl who has withdrawn from social activities, stopped eating properly, and cries silently at night may have her distress interpreted as evidence of shyness, obedience, or appropriate feminine behavior rather than as clinical depression. The burden of unrecognized and untreated internalizing problems in Bangladeshi children is almost certainly substantially larger than the burden of recognized externalizing problems.

152.2 Anxiety Disorders in Bangladeshi Children and Adolescents

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Anxiety is the most common form of psychological distress in children globally, and there is no reason to believe Bangladesh is an exception, though the cultural expression of anxiety in Bangladeshi children may differ from the Western presentation in important ways. Anxiety in Bangladeshi children is often expressed somatically, through complaints of headache, abdominal pain, and physical discomfort, rather than through verbal expressions of worry or fear. The somatic language of distress in Bangladesh, discussed in earlier parts of this textbook in the context of adult disorders, applies equally to children: children learn to express distress in the modes that are culturally available and socially sanctioned, and in Bangladesh, somatic expression of emotional distress is both culturally familiar and less stigmatizing than psychological expression.

Separation anxiety disorder, the most common anxiety disorder in young Bangladeshi children, presents with excessive distress when separated from attachment figures and is often accompanied by school refusal or reluctance. In Bangladesh, the transition to school in the early primary years is a particular risk point, and the combination of an anxiously attached child and a mother with her own anxiety or depression creates conditions for entrenched separation anxiety that can significantly disrupt both the child's education and family functioning.

School refusal, the persistent refusal to attend school or to stay at school, is a clinical presentation of significant practical importance in Bangladesh, where school attendance is both legally mandated and a primary pathway to future social and economic opportunity. School refusal in Bangladesh has multiple causes: anxiety disorders (particularly separation anxiety and social anxiety), depression, bullying, academic failure, and family factors including conflict, parental illness, and financial hardship that create reasons for the child to remain at home. Its management requires a systematic approach addressing all contributing factors, with the primary therapeutic goal of restoring school attendance through a graded exposure program supported by family and school collaboration.

Social anxiety disorder in Bangladeshi adolescents is a condition that is probably common, given the intense social hierarchies, public shame exposure, and performance demands of the Bangladeshi educational system, but that is rarely identified as a clinical problem. The adolescent who avoids speaking in class, cannot approach teachers with questions, refuses to participate in school events, and experiences intense anticipatory anxiety about social situations may be seen simply as shy or reserved. In a culture where reserve and modesty are generally valued, particularly in girls, the pathological degree of social anxiety may not cross the threshold that triggers clinical concern until it has produced significant educational and social impairment.

152.3 Depression in Bangladeshi Children and Adolescents

Clinical depression in children and adolescents in Bangladesh presents significant diagnostic challenges. In younger children, depression often presents quite differently from its adult form: the cardinal features of depressed mood and loss of interest may be less prominent than irritability, behavioral regression, somatic complaints, declining school performance, and social withdrawal. A child who has become more clingy, more aggressive, more prone to physical

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complaints, and less engaged in play may be experiencing a depressive episode that would not be recognized as such without specific clinical inquiry.

In adolescents, depressive presentations in Bangladesh are shaped by both developmental and cultural factors. The intense academic pressure and examination culture of Bangladeshi secondary schools means that declining school performance is often the first visible sign of adolescent depression, and it is typically addressed initially through increased tutoring and family pressure rather than through mental health assessment. The cultural prohibition on direct expression of negative emotions to authority figures, including parents, means that adolescents may conceal the depth of their depressive distress even from family members who care deeply about them. And the specific social stressors facing Bangladeshi adolescents, including early marriage for girls, family conflict, peer pressure, and the challenge of navigating between tradition and modernity, create a risk landscape that is both intense and inadequately served by existing mental health resources.

The treatment of depression in Bangladeshi children and adolescents requires an integrated approach. For mild to moderate depression, evidence-based psychological therapies are the preferred first-line treatment. Cognitive-behavioral therapy adapted for adolescents (CBT-A) has the strongest evidence base for adolescent depression globally. Interpersonal therapy for adolescents (IPT-A), which focuses on the relational context of depression including grief, role transitions, interpersonal disputes, and social isolation, may be particularly relevant in the Bangladeshi context where interpersonal stressors are often prominent precipitants of adolescent depression. Both CBT-A and IPT-A need further cultural adaptation and testing in the Bangladeshi context, which represents an important research and clinical development priority.

For moderate to severe depression in adolescents, the combination of an antidepressant medication and a psychological therapy is supported by evidence. The selective serotonin reuptake inhibitors, particularly fluoxetine, are the most evidence-supported pharmacological treatment for adolescent depression. The evidence base for antidepressants in child depression (below the age of 12) is much weaker, and pharmacological treatment in this age group should be reserved for severe cases, used with careful monitoring, and combined with psychological intervention. The use of tricyclic antidepressants in children and adolescents is not recommended given the lack of efficacy evidence and the risk of cardiac arrhythmia in overdose, which is particularly relevant given the risk of overdose in suicidal adolescents.

The management of depression in Bangladeshi children and adolescents in the context of a severely resource-limited mental health system requires pragmatic adaptation. Task-sharing approaches, in which trained non-specialist workers deliver simplified versions of evidence-based psychological treatments, are the only feasible way to reach the large number of children who need help. The evidence from task-sharing programs in other low- and middle-income countries for adolescent depression is encouraging, and several pilot programs are underway in Bangladesh. The key challenge is to develop training programs, supervision systems, and quality assurance mechanisms that can maintain fidelity to evidence-based principles while allowing the adaptation needed for local feasibility and cultural relevance.

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CHAPTER ONE HUNDRED AND FIFTY-THREE: CONDUCT DISORDERS AND DISRUPTIVE BEHAVIOR DISORDERS IN BANGLADESH

153.1 Understanding Conduct Disorder in the Bangladeshi Context

Conduct disorder, encompassing persistent patterns of aggressive, destructive, deceitful, or seriously norm-violating behavior that cause significant impairment in social, academic, or occupational functioning, is the most prevalent psychiatric diagnosis in Bangladeshi community samples. Its high prevalence is not a simple reflection of genetic predisposition; it reflects the convergence of multiple social risk factors that are particularly prevalent in Bangladesh.

The clinical picture of conduct disorder in Bangladesh is shaped by several culturally specific factors. Physical aggression among boys is often normalized within families and peer groups, particularly in lower socioeconomic contexts, creating a context in which the threshold for what constitutes clinically significant aggressiveness may be set higher than in cultures with different norms around physical conflict. Theft and property destruction, prominent features of conduct disorder in Western classification systems, may be difficult to distinguish from survival behaviors in the context of extreme poverty. And the concept of "antisocial behavior" has different cultural resonances: behaviors that Western classification systems might code as antisocial may be framed in Bangladesh as manifestations of masculine assertiveness, family loyalty (defending family honor through violence), or rational responses to injustice.

These cultural factors do not eliminate the validity of the conduct disorder category in Bangladesh, but they do require that its application be contextually sensitive. The clinical significance of a pattern of behavior depends on its impact on the child's functioning, relationships, and developmental trajectory, not simply on its fit with culturally specific behavioral norms. A child whose aggressive behavior is causing significant educational failure, social exclusion, and family distress has a clinical problem regardless of how that behavior might be interpreted culturally. And the research evidence that untreated conduct disorder in childhood predicts a range of adverse outcomes in adolescence and adulthood, including criminal behavior, substance use disorders, unemployment, and physical health problems, is sufficiently robust to mandate serious clinical attention.

The etiology of conduct disorder in Bangladesh involves the interaction of several established risk factors. Neurobiological factors, including low resting heart rate (a marker of reduced autonomic arousal that is consistently associated with antisocial behavior in both high-income and lower-income countries), reduced prefrontal regulatory function, and callous-unemotional traits (a specific subtype associated with reduced emotional empathy and fearlessness), account for a proportion of variance. These neurobiological factors operate in interaction with environmental risk factors, particularly harsh and inconsistent parenting, exposure to parental conflict and domestic violence, deviant peer affiliation, and the broader social context of poverty and social marginalization.

153.2 The Juvenile Justice System and Child Offending in Bangladesh

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The intersection of conduct disorder and the criminal justice system is a particularly urgent concern in Bangladesh. The juvenile justice system in Bangladesh, while having undergone some reform with the passage of the Children Act 2013 and its subsequent amendments, remains inadequate for the therapeutic management of young offenders with mental health problems. Children who come into conflict with the law are often detained in facilities that are poorly equipped, understaffed, and lacking in therapeutic programs, where contact with adult offenders may further entrench antisocial attitudes and criminal networks.

The Children Act 2013 establishes children's courts and mandates the use of diversion, rehabilitation, and reintegration rather than punishment as the primary approach to juvenile justice. The spirit of this legislation reflects international human rights standards and the evidence base for what works with young offenders. The challenge is implementation: the infrastructure of specialized courts, probation services, and therapeutic programs for young offenders is underdeveloped, and the gap between the legal mandate and the reality of juvenile justice in Bangladesh remains wide.

From a psychiatric perspective, the priorities in juvenile justice are the systematic assessment of mental health needs in young offenders (including ADHD, conduct disorder, depression, PTSD, and substance use disorders, all of which are highly prevalent in juvenile justice populations), the provision of evidence-based treatment within justice settings, and the development of diversion programs that can redirect young people with mental health problems away from the criminal justice system toward therapeutic services before criminal behavior becomes entrenched.

CHAPTER ONE HUNDRED AND FIFTY-FOUR: CHILD MALTREATMENT AND ITS PSYCHIATRIC CONSEQUENCES IN BANGLADESH

154.1 Defining and Measuring Child Maltreatment

Child maltreatment encompasses physical abuse (the deliberate infliction of physical harm on a child), emotional abuse (the persistent emotional ill-treatment of a child, including humiliation, rejection, and developmentally inappropriate criticism), sexual abuse (the involvement of a child in sexual activity that they do not understand, cannot consent to, or are developmentally unprepared for), neglect (the persistent failure to meet a child's basic physical and emotional needs), and witnessing domestic violence (which has increasingly been recognized as a form of maltreatment in its own right).

The measurement of child maltreatment in Bangladesh is challenging, given the high rates of cultural normalization of physical punishment, the absence of mandatory reporting systems, and the profound underreporting of sexual abuse driven by shame, fear, and family dynamics. Available estimates, while inevitably approximate, suggest that child maltreatment is extremely common. Studies using validated self-report instruments have found rates of severe physical punishment in childhood of 60 to 80 percent among adults reporting on their own childhood experiences, with rates that are somewhat lower but still very high in more recent cohorts as

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awareness of child rights has slowly increased. Studies of child sexual abuse in Bangladesh, using varied methodologies, have found lifetime prevalence estimates ranging from 5 to over 20 percent depending on the definition and sample.

The normalization of physical punishment as a parenting and educational technique is a particularly important issue in Bangladesh. The belief that physical punishment is both necessary and appropriate for child-rearing is widespread among parents and teachers, reflected in the fact that corporal punishment in schools was only officially prohibited in 2011 (by a High Court ruling) and that enforcement remains inconsistent. The evidence that physical punishment increases rather than reduces problematic behavior over the long term, increases the risk of a range of mental health problems, and damages the child-parent relationship is clear and compelling. Changing deeply held cultural beliefs about physical punishment requires sustained public education programs and positive parenting skills training, both of which have been piloted in Bangladesh with promising results.

154.2 The Psychiatric Consequences of Child Maltreatment

The psychiatric consequences of child maltreatment are extensive, well-documented, and dose-dependent: more severe, more persistent, and more encompassing maltreatment produces more severe and more lasting psychological harm. Several mechanisms link maltreatment to psychiatric disorder.

Neurobiologically, early maltreatment, particularly in the first years of life, produces lasting changes in the stress response system. Repeated activation of the hypothalamic-pituitary-adrenal axis and the sympatho-adrenal system by experiences of threat, pain, or abandonment during the sensitive periods of early development produces a hyperactivated stress response system that remains on high alert even in the absence of current threat. This neurobiological hypervigilance underlies the PTSD symptomatology of hyperarousal and re-experiencing that is commonly seen in maltreated children, and it may also contribute to the immune dysregulation, metabolic disturbance, and cardiovascular risk associated with early adversity across the life course.

Psychologically, maltreatment disrupts the development of several capacities that are essential for mental health. Secure attachment is undermined when the attachment figure is simultaneously a source of comfort and a source of threat, creating the disorganized attachment pattern that is the strongest attachment-based predictor of later psychopathology. Emotional regulation is impaired because the parent who is supposed to co-regulate the child's emotional states is unavailable, frightening, or abusive. The development of a coherent self-concept is disrupted by the experience of being treated as worthless, shameful, or sexually available. And the development of trust in others, which is the foundation of healthy social relationships, is damaged by repeated experiences of betrayal by adults in positions of care.

The major psychiatric consequences of child maltreatment include PTSD and complex PTSD, which is particularly associated with repeated, prolonged maltreatment beginning in early childhood; depression; anxiety disorders; dissociative disorders; borderline personality pathology (which is understood in contemporary developmental psychopathology as a sequela of severe early trauma in many cases); substance use disorders, which develop as maladaptive

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coping strategies for managing the psychological pain of maltreatment; and suicidal behavior, which is dramatically elevated in maltreated populations.

In Bangladesh, the management of maltreated children represents one of the most challenging and most poorly resourced areas in the entire mental health system. Child protection services are underdeveloped, the reporting and investigation of suspected maltreatment is inconsistent and often poorly handled, therapeutic services for maltreated children are essentially unavailable outside a small number of Dhaka-based NGOs, and the legal framework for child protection, while improving, remains inadequate. The Shishu Ain 2013 (Children Act 2013) provides a legal framework for child protection but its implementation requires sustained investment in both services and enforcement capacity.

CHAPTER ONE HUNDRED AND FIFTY-FIVE: ADOLESCENT SUICIDE AND SELF-HARM IN BANGLADESH: THE CRISIS AND THE CLINICAL RESPONSE

155.1 The Epidemiological Crisis: What the Evidence Shows

The evidence on adolescent suicide in Bangladesh, summarized in Chapter 150 in its epidemiological context, warrants deeper clinical and public health analysis here. Bangladesh faces an adolescent suicide crisis that is real, growing, and profoundly shaped by the specific social conditions of the country. Any serious response requires understanding not only the epidemiology but the underlying psychology, the cultural context, the structural determinants, and the available intervention strategies.

The most alarming recent finding is the gender asymmetry: female students account for approximately 61 percent of student suicide cases in Bangladesh, in contrast to the global pattern in which male deaths by suicide substantially outnumber female deaths in most countries. This reversal of the global gender pattern is not unique to Bangladesh: similar patterns have been observed in rural China, in Sri Lanka, and in some parts of India, and they appear to be associated with the specific social conditions of low-income patriarchal societies where young women face particularly severe and inescapable social stressors.

The stressors that precipitate suicidal behavior in Bangladeshi girls and young women are not simply individual psychological problems but structured social conditions: the loss of romantic relationships in a context where premarital relationships are stigmatized and their exposure constitutes a severe social sanction; the experience of sexual harassment and assault with no social permission to report or resist; the pressure of early marriage and its associated loss of freedom and self-determination; the experience of domestic violence with no social or legal recourse; the shame of examination failure in a context where female academic achievement has become important to family honor without the corresponding expansion of social rights and opportunities. Suicide in this context is not simply an impulsive act or a symptom of individual psychopathology: it is often a rational response to a situation of entrapment with no visible exit, a fact that has profound implications for the design of prevention strategies.

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Academic pressure as a suicide risk factor deserves particular attention. The competitive examination system in Bangladesh, in which SSC and HSC results determine access to university and subsequent life opportunities, creates an environment of intense, sustained pressure on adolescents, particularly those from middle-class families for whom educational achievement is the primary route to social mobility. The 2026 study on suicide after examination result publication documents clearly that the release of examination results is associated with a specific spike in student suicides, particularly among younger adolescents whose identity and sense of worth have become fused with their academic performance. The school system's response to examination failure, which typically involves shame, blame, and intensified pressure rather than emotional support, exacerbates rather than mitigates suicide risk at this critical juncture.

The role of social media and digital technology in adolescent suicide in Bangladesh is a subject of growing concern. Several high-profile cases in which adolescent suicides appeared to be precipitated or imitated through social media exposure have raised public alarm. The association between heavy social media use and suicidal ideation is established in the global literature, mediated through pathways including social comparison, cyberbullying, exposure to suicidal content, and the displacement of healthy face-to-face social interaction. In Bangladesh, where smartphone penetration among adolescents has risen sharply and where social media use is intense among urban young people, these associations deserve serious research and policy attention.

155.2 Clinical Risk Assessment and Management of Suicidal Adolescents

The clinical assessment of suicide risk in adolescents in Bangladesh requires a systematic approach adapted to the specific cultural and clinical context. Several principles guide good practice.

The first principle is that asking about suicidal thoughts does not increase suicide risk: the evidence is clear and consistent that enquiring directly about suicidal ideation does not plant the idea or make suicide more likely, but can provide the opening for a young person to disclose distress they have been carrying alone. All adolescents presenting to clinical settings with depression, self-harm, significant psychosocial stressors, or any other indicators of elevated risk should be asked directly and sensitively about suicidal thoughts. The commonly used SAFE-T (Suicide Assessment Five-step Evaluation and Triage) framework or the Columbia Suicide Severity Rating Scale (C-SSRS) can structure the assessment.

The second principle is that risk assessment should be comprehensive and systemic. Individual psychological factors (depression, hopelessness, impulsivity, history of previous attempts, substance use) are important but do not exist in isolation. The family and social context, the presence or absence of supportive relationships, the degree of access to lethal means, the cultural and religious attitudes toward suicide, and the quality of the therapeutic alliance all modify risk and must be assessed and addressed.

The third principle is that means restriction is one of the most effective suicide prevention interventions available. In Bangladesh, the two most important means are hanging (for which

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restricting access to ligature points in the home environment is a practical step that families can implement) and pesticide poisoning (for which the restriction of household access to pesticides and the development of strategies for safe storage are public health priorities). The evidence that reducing access to lethal means reduces suicide mortality, without a compensatory increase in other methods, is strong and comes from multiple settings.

The fourth principle concerns hospitalization. Psychiatric hospitalization for suicidal adolescents is rarely necessary and is not routinely available in Bangladesh outside major centers. When indicated (for example, in the presence of active psychosis, severe depression with high intent, or a specific, immediate plan with access to means), hospitalization can be life-saving. But for most suicidal adolescents, the most important intervention is the establishment of a safety plan that includes identification of warning signs, coping strategies, social supports, and emergency contacts; the mobilization of family support (with the family's approach to the adolescent's distress shaped by the clinical team); and the initiation of appropriate treatment for the underlying condition. Regular follow-up in the immediate period after assessment is essential, since the risk period is highest in the days and weeks following a crisis.

155.3 Population-Level Prevention of Adolescent Suicide

Individual clinical management of suicidal adolescents, however important, cannot address the population-level crisis of adolescent suicide in Bangladesh. Population-level prevention requires multiple parallel strategies operating at different levels of the social system.

School-based mental health programs, including universal mental health literacy education, the training of teachers in the recognition and initial response to students in distress (gatekeeper training), and the establishment of school counseling services, represent the most feasible population-level entry point for adolescent suicide prevention in Bangladesh. The evidence from high-income countries and, increasingly, from low- and middle-income countries, supports the effectiveness of school-based programs in reducing suicidal ideation and improving help-seeking behavior. Bangladesh has made limited but growing progress in this area, with pilot programs in some schools, but national scale-up remains very far from realized.

The examination system itself requires reform from a mental health perspective. The introduction of more continuous assessment, the reduction of all-or-nothing high-stakes examinations, the expansion of counseling support around examination periods, and the cultural change in how examination results are discussed within families all represent directions for a long-term response to the examination-related suicide risk. These changes are politically complex, given the investment of multiple stakeholders in the current system, but the public health evidence supports them strongly.

Community-based programs addressing the social determinants of female adolescent suicide deserve special attention and investment. Programs that address early marriage, that support girls' continued education, that challenge norms of female subordination, and that build girls' own capacities for agency and help-seeking are among the most important suicide prevention interventions available for the high-risk population of Bangladeshi young women. The evidence from programs like the Kishoree Kontha (Voice of Adolescent Girls) initiative, which works with

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adolescent girls in rural Bangladesh on life skills, health, and social issues, points to the possibility of community-based approaches to this specific risk.

Crisis intervention services for adolescents, including helplines and online support resources, are underdeveloped in Bangladesh. The Kaan Pete Roi telephone counseling service, though primarily oriented toward adult callers, receives calls from adolescents in distress. The development of adolescent-specific crisis support services, including SMS and social media-based options that reach young people in the modes of communication they actually use, is a priority that would require modest investment but could have significant impact.

CHAPTER ONE HUNDRED AND FIFTY-SIX: SCHOOL MENTAL HEALTH IN BANGLADESH: SYSTEMS, CHALLENGES, AND INNOVATIONS

156.1 The School as the Primary Venue for Child Mental Health

Schools occupy a uniquely privileged position in the landscape of child mental health in Bangladesh and globally. For the approximately 35 million school-enrolled children and adolescents in Bangladesh, the school is the setting in which they spend the majority of their waking hours, in which they develop cognitively and socially, in which many of their most significant peer relationships are formed, and in which much of their earliest and most significant exposure to success, failure, inclusion, and exclusion occurs. Schools are therefore not simply educational institutions in a narrow cognitive sense; they are environments that profoundly shape mental health, for better or for worse.

The "mental health in schools" movement, which has developed in high-income countries over the past three decades, proposes a whole-school approach to mental health that operates at three interconnected levels. The universal level involves creating a school environment that is supportive of mental health for all students: a positive school climate, anti-bullying policies, social-emotional learning (SEL) curricula that teach children the skills of emotional awareness, regulation, and social interaction, and teacher practices that are nurturing, fair, and developmentally appropriate. The selective level involves targeted support for students at elevated risk, including additional pastoral care, access to a school counselor, and enhanced monitoring. The indicated level involves assessment and intervention for individual students who are already experiencing mental health problems, including referral pathways to specialist services when needed.

In Bangladesh, the school system has historically been almost entirely focused on the academic and cognitive functions of education, with no systematic attention to the social and emotional dimensions of development or to the mental health needs of students. Several factors have made this neglect particularly damaging. The highly competitive and examination-focused culture of Bangladeshi schools creates intense pressure and associated stress, anxiety, and fear of failure for many students. Physical punishment, while officially prohibited, continues to be used in many schools, creating environments of fear and humiliation that are actively harmful to mental

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health. Bullying, both physical and increasingly cyber, is prevalent and poorly addressed. And teachers have no training in recognizing or responding to students in psychological distress.

156.2 Pioneering School Mental Health Initiatives in Bangladesh

Against this challenging background, several innovative initiatives have begun to demonstrate what is possible in school mental health in Bangladesh. These initiatives remain small-scale relative to the need, but they provide proof of concept and learning for national scale-up.

The integration of mental health content into school curricula through the adaptation of WHO's life skills education program for the Bangladeshi context has been piloted in several schools in Dhaka and in some district towns. Life skills education covers communication skills, empathy and perspective-taking, decision-making, problem-solving, critical thinking, creative thinking, managing stress, managing emotion, self-awareness, and interpersonal relationship skills. Evaluations of these programs in Bangladesh, while limited in scope, have found improvements in mental health literacy, reductions in aggressive behavior, and improvements in social competence among participating students.

Gatekeeper training programs for teachers, in which teachers are trained to recognize the signs of student distress, to have safe conversations with students about mental health, and to refer students to appropriate support, have been piloted with encouraging results. Trained teachers report significantly higher confidence in addressing mental health issues with students and are more likely to identify students in distress and to respond in supportive rather than punitive ways.

School counseling services, while extremely limited in their reach, are beginning to be established in some private schools in Dhaka. The professional cadre of school counselors does not yet formally exist in Bangladesh, and the training and accreditation of school counselors is an essential infrastructure development. NGOs including a number of mental health organizations have developed and piloted materials for school-based mental health promotion and have trained small numbers of teachers and counselors, but these efforts need orders-of-magnitude scaling to reach the millions of students who need them.

The specific question of how to address the examination-related mental health crisis in Bangladeshi schools points to the need for interventions that address both individual students (through counseling, stress management, and the development of healthy coping strategies in the period before and after examinations) and the school system itself (through teacher training in supportive responses to examination failure, the development of second-chance pathways for students who fail, and the cultural shift in how examination performance is framed and valued). This is a reform agenda that requires political will, as it touches on deeply embedded cultural values, but the public health imperative is now clear.

156.3 The Teacher-Student Relationship as a Mental Health Resource

One of the most powerful and most underutilized mental health resources in Bangladeshi schools is the teacher-student relationship itself. Research across multiple settings has demonstrated that

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the quality of teacher-student relationships is among the strongest predictors of children's mental health outcomes within the school context: a positive, warm, and reliable relationship with at least one teacher is associated with better mental health, higher academic engagement, and greater resilience in the face of adversity.

In Bangladesh, the teacher-student relationship is typically characterized by high power distance and limited personal warmth, particularly in secondary schools. Teachers are authority figures, not confidants, and the communication between teachers and students about anything beyond academic matters is limited by cultural norms. This does not mean that the relationship cannot be a source of support: teachers who know their students as individuals, who notice when a student is struggling, and who can communicate genuine care through culturally appropriate expressions are providing real mental health value. But building the awareness and skills needed for teachers to function as effective mental health resources requires dedicated training and a change in the culture of teacher education.

CHAPTER ONE HUNDRED AND FIFTY-SEVEN: SOCIAL MEDIA, DIGITAL TECHNOLOGY, AND ADOLESCENT MENTAL HEALTH IN BANGLADESH

157.1 The Digital Revolution and Bangladeshi Adolescence

Bangladesh has undergone a dramatic digital transformation in the first two decades of the twenty-first century. Mobile phone penetration, which was minimal in the early 2000s, had reached over 90 percent of the population by the early 2020s. Smartphone penetration, while lower, has grown rapidly, particularly among urban youth. Internet access, initially concentrated in urban areas and among higher socioeconomic groups, has expanded through mobile internet to reach a much wider proportion of the population. Social media platforms, primarily Facebook (which has an enormous user base in Bangladesh), YouTube, and TikTok, are deeply embedded in the daily lives of urban adolescents and increasingly of rural ones.

The mental health implications of this digital transformation are complex and contested. The research literature from high-income countries, where digital technology diffused somewhat earlier, presents a picture that is more nuanced than the media discourse of either uncritical celebration or moral panic. Several consistent associations emerge from the better-quality research: heavy and passive social media use (scrolling through others' content without active engagement) is more strongly associated with depressive symptoms and lower well-being than active, interactive use; cyberbullying is a serious and prevalent phenomenon associated with elevated rates of depression, anxiety, and suicidal behavior; exposure to idealized and unrealistic body images on social media is associated with body dissatisfaction and eating disorder risk, particularly in girls; and the displacement of sleep by late-night social media use contributes to the sleep deprivation that impairs mood and cognitive function in adolescents.

At the same time, digital technology can be a mental health resource: it provides access to information about mental health that was previously unavailable; it enables connection with peers and social support networks, including for young people who are isolated or marginalized

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in their physical communities; and it creates new modalities for the delivery of mental health support and intervention, including mental health apps, online therapy, and peer support platforms.

In Bangladesh specifically, the intersection of social media use and adolescent mental health has several distinctive features. Facebook's dominant position in the Bangladeshi digital landscape means that much of the social media-mediated mental health risk is concentrated in this particular platform, with its particular algorithmic dynamics of social comparison and engagement optimization. The combination of social media exposure with the intense social dynamics of Bangladeshi adolescent culture, including the extraordinary importance of social reputation and the severity of social sanction for transgressing gender norms, creates specific risks. Several documented cases of adolescent suicide in Bangladesh have been directly precipitated by the exposure or threatened exposure of private communications or intimate images on social media, with the social consequences of such exposure being experienced as catastrophic and inescapable.

The regulatory and public health response to digital mental health risks in Bangladesh is at an early stage. Content moderation on major platforms remains limited, and the specific risks to Bangladeshi adolescents from non-consensual intimate image sharing, harassment, and radicalization through social media have received limited systematic policy attention. The development of digital literacy education, including education about the mental health risks of heavy social media use and the skills needed to navigate digital environments safely, is an important component of comprehensive school mental health programs.

157.2 Digital Mental Health: Opportunities in a Resource-Limited Setting

The severe shortage of mental health services in Bangladesh creates both a crisis of unmet need and an opportunity for digital approaches to expand access. Digital mental health technologies, including mental health apps, online therapy platforms, and text-based support services, have the potential to reach populations that conventional face-to-face services cannot access. In a country where the majority of the population lives more than an hour from any specialist mental health service, and where the stigma of presenting to a mental health clinic is a significant barrier, digital approaches that can be accessed privately and anonymously may enable help-seeking that would otherwise not occur.

Several digital mental health platforms are operating in Bangladesh at a small scale. SMS-based support programs for adolescents in distress have been piloted by NGOs. Online therapy platforms, while still limited in coverage and often constrained by cost, are beginning to offer services in Bangla. Mental health apps developed specifically for the Bangladeshi context are at an early stage of development.

The evidence on the effectiveness of digital mental health interventions, which is growing rapidly in the global literature, supports cautious optimism about their potential in Bangladesh. Several factors are important for the Bangladeshi context. First, digital interventions are most effective when they are simple, engaging, and culturally adapted: generic apps developed for Western populations are unlikely to be acceptable or effective without significant local adaptation.

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Second, the effectiveness of standalone digital interventions (without human support) is typically modest; the most effective digital mental health programs incorporate human contact, whether through trained counselors, peer supporters, or automated but personalized responses. Third, digital equity concerns are paramount: ensuring that digital mental health resources are accessible to those in rural areas, those with lower socioeconomic status, and those with limited literacy requires deliberate design choices and subsidization.

CHAPTER ONE HUNDRED AND FIFTY-EIGHT: CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY IN BANGLADESH

158.1 Principles of Pharmacological Treatment in Children and Adolescents

Psychopharmacological treatment in children and adolescents requires both the general principles that govern prescribing in adults and a set of additional considerations specific to the developing organism. These additional considerations include developmental pharmacokinetics (the ways in which drug absorption, distribution, metabolism, and elimination differ in children and adolescents compared to adults), developmental pharmacodynamics (the ways in which drug effects on the developing brain may differ from effects on the mature brain), the specific evidence base for each drug in each condition in pediatric populations (which is often more limited than the adult evidence base), the ethical dimensions of prescribing in children who may not be in a position to give meaningful consent, and the long-term developmental consequences of early pharmacological intervention, which remain incompletely understood for most drugs.

The ethical framework for child psychopharmacology requires that prescription is based on genuine clinical need, that non-pharmacological approaches have been considered and, where feasible, tried first, that the potential benefits have been carefully weighed against the risks for this specific child in this specific context, that informed consent has been obtained from parents or guardians with appropriate explanation of the evidence base, the alternatives, and the known risks, and that treatment is accompanied by monitoring of both efficacy and adverse effects.

In Bangladesh, an additional layer of considerations arises from the resource context. Many psychopharmacological treatments used for children and adolescents in high-income countries are either unavailable, unaffordable, or available only in adult formulations that cannot be readily dosed for children in Bangladesh. The regulatory status of some pediatric psychiatric medications (particularly stimulants for ADHD) creates additional barriers. And the weakness of monitoring systems means that adverse drug reactions may be underidentified and underreported.

158.2 Pharmacological Treatment of Specific Conditions

For anxiety disorders in children and adolescents, the first-line approach is psychological therapy, specifically CBT, which has the strongest evidence base. Pharmacological treatment is reserved for cases where psychological therapy is not available, is not effective alone, or where the severity of the disorder mandates a combined approach. The SSRIs, particularly sertraline

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and fluoxetine, have the best evidence base for pharmacological treatment of anxiety disorders in children and adolescents, and they are relatively available in Bangladesh. The short-term use of benzodiazepines for acute anxiety management in children requires great caution given the risks of sedation, cognitive impairment, paradoxical disinhibition, and dependence.

For depressive disorders in adolescents, fluoxetine has the strongest evidence base and is the only antidepressant approved for adolescent depression by major regulatory bodies. The evidence base for other SSRIs in adolescent depression, while weaker, is also supportive, and sertraline and escitalopram are reasonable alternatives. The initiation of antidepressants in adolescents requires careful monitoring for the increased risk of suicidal ideation and behavior that has been observed in trials (a risk that appears to be an activation effect of the medication rather than a direct effect on suicidality, but that requires careful clinical management). The use of antidepressants in children under 12 should be approached with particular caution and reserved for severe cases.

For ADHD, methylphenidate is the pharmacological treatment with the strongest global evidence base and is available in Bangladesh, though its prescription requires specific procedures given its controlled drug status. The evidence that methylphenidate significantly improves attention, concentration, and impulse control in children and adolescents with ADHD is robust. However, the shortage of psychiatrists trained in the diagnosis and management of ADHD in Bangladesh means that many children with this condition are either untreated or receiving inappropriate treatment. The development of clear clinical guidelines for ADHD assessment and management adapted for the Bangladeshi context is a priority.

For psychotic disorders in adolescents, antipsychotic medications are the mainstay of pharmacological treatment. The principles of prescribing atypical antipsychotics in adolescents are similar to those in adults, but with heightened attention to the risks of weight gain and metabolic syndrome (which appear to be more pronounced in adolescents than adults for some agents), hyperprolactinemia (which has specific concerns in the context of ongoing pubertal development), and the cognitive side effects that may impair educational performance in already disadvantaged young people.

158.3 Controversies and Special Concerns in Child Psychopharmacology

Several controversies in child and adolescent psychopharmacology deserve explicit attention.

The overprescription of ADHD medications in high-income countries, particularly the United States, has generated concern that stimulant medications may be prescribed for children who do not have genuine ADHD but whose behavior is simply at the active end of the normal distribution or is a response to inappropriate educational environments. The mechanisms that drive overprescription in high-income countries include commercial pressures, diagnostic incentives in health systems, parent pressure for quick-fix solutions, and the limited availability of non-pharmacological alternatives. In Bangladesh, the concern is very different: the problem is not overprescription but radical underprescription and underdiagnosis of ADHD, with many children who genuinely need treatment unable to access it. Both extremes represent failures of the clinical system, though they are very different failures with very different drivers.

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The prescription of antipsychotic medications to children without psychotic illness, for behavioral management of conduct disorder, developmental disorders, and intellectual disability, is a practice of significant concern globally. While atypical antipsychotics have some evidence base for the short-term reduction of severe agitation and aggression in children with developmental disorders, their long-term safety profile in developing children is insufficiently studied, and their use for behavioral management in children who do not have psychotic illness should be approached with great caution. In Bangladesh, where monitoring is limited and the risks may not be systematically communicated to families, this concern is particularly acute.

The exposure of developing children to psychoactive medications during sensitive periods of brain development raises profound questions about long-term developmental effects that remain incompletely answered by the available research. Animal studies have shown that early exposure to various psychotropic drugs can produce lasting changes in brain structure and function, but translating these findings to the clinical context is complex given the differences in dose, timing, and the specific conditions being treated. The precautionary principle suggests that pharmacological treatment of children should be reserved for cases where the evidence base supports its use, where the severity of the condition justifies the risk, and where non-pharmacological alternatives have been genuinely considered and found inadequate.

CHAPTER ONE HUNDRED AND FIFTY-NINE: PSYCHOSOCIAL INTERVENTIONS FOR CHILDREN AND ADOLESCENTS IN BANGLADESH

159.1 The Evidence-Based Psychological Therapies for Children and Adolescents

The evidence base for psychological therapies in children and adolescents has grown substantially over the past three decades, and several approaches now have strong evidence of effectiveness across a range of conditions. The challenge in Bangladesh is less the question of which interventions work than the question of how evidence-based interventions can be delivered at scale in a resource-limited context with a severe shortage of trained professionals.

Cognitive-behavioral therapy adapted for children and adolescents (CBT-C/A) has the strongest and most consistent evidence base of any psychological therapy in this age group. It has demonstrated effectiveness for anxiety disorders (including separation anxiety, social anxiety, and generalized anxiety), depressive disorders, OCD, PTSD, and aspects of conduct disorder. The core components of CBT (psychoeducation, cognitive restructuring, behavioral experiments, relaxation and distress tolerance skills, and relapse prevention) can be adapted for different developmental levels, using more behavioral and less cognitive approaches with younger children, and more sophisticated cognitive work with adolescents. The cultural adaptation of CBT for Bangladeshi children and adolescents, including attention to culturally specific thought patterns, the role of the family in the therapeutic process, and the use of culturally familiar metaphors and examples, is an ongoing research and clinical development priority.

Behavioral parent training (BPT) is the most evidence-based intervention for conduct disorder and disruptive behavior problems in young children, and also has strong evidence for reducing

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the behavioral correlates of ADHD. BPT programs work by training parents in skills that directly target the behavioral and interactional dynamics that maintain conduct problems: consistent and positive reinforcement of prosocial behavior, effective discipline strategies that replace physical punishment, and structured communication with the child. Programs like the Incredible Years and Triple P (Positive Parenting Program) have been adapted and tested in various low- and middle-income country settings with good results. The adaptation of BPT for Bangladesh must navigate the cultural context of parenting, including widespread acceptance of physical punishment, the extended family dynamics that mean multiple adults are involved in child-rearing decisions, and the practical constraints of low-literacy parents in rural settings.

Family therapy, in its various forms (structural family therapy, systemic family therapy, multisystemic therapy), provides a framework for working with the family system rather than treating the child in isolation. Family therapy is particularly relevant in Bangladesh given the family-centered structure of Bangladeshi society and the fact that family dynamics are typically central to the maintenance of children's mental health problems. The development of trained family therapists in Bangladesh is at an early stage, but the principles of family systems thinking can be incorporated into the clinical work of psychiatrists, psychologists, and other trained professionals.

Trauma-focused CBT (TF-CBT) is the most evidence-based treatment for PTSD in children and adolescents, with a strong evidence base across multiple settings including low- and middle-income countries. TF-CBT integrates trauma-sensitive CBT components with family involvement and specific trauma processing elements, including the gradual exposure to traumatic memories in a safe therapeutic context, cognitive processing of trauma-related thoughts and beliefs, and the development of safety skills. TF-CBT has been successfully adapted for use in low-resource settings by non-specialist workers with appropriate training and supervision, and several pilots of simplified, adapted versions have demonstrated effectiveness in humanitarian settings. The application of TF-CBT or similar trauma-focused approaches in Bangladesh, including in the Rohingya refugee context, is an important clinical and research priority.

159.2 Task-Sharing and the Scale-Up of Psychological Interventions

The severe shortage of trained child mental health professionals in Bangladesh makes the task-sharing approach not simply desirable but essential. Task-sharing in child mental health involves training non-specialist workers (who may include community health workers, teachers, religious leaders, peer counselors, and family members) to deliver simplified versions of evidence-based interventions, with appropriate supervision from trained professionals.

Several task-sharing models have been tested in child mental health in low- and middle-income countries, and the results are encouraging. The School Mental Health Bangladesh project, piloted by the National Institute of Mental Health in collaboration with international partners, trained teachers and school counselors to deliver a simplified version of the Coping Cat CBT program for anxiety in school children, with positive results in a pilot evaluation. The Healthy Activity Program (HAP), a brief behavioral activation intervention for depression originally developed for adults in South Asia, has been adapted for adolescents and is being evaluated in Bangladesh.

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The WHO mhGAP Intervention Guide, which provides simplified evidence-based protocols for the management of mental disorders by non-specialist health workers, includes sections on developmental disorders, behavioral disorders, and self-harm that are relevant to children and adolescents. The training of primary care physicians and community health workers in mhGAP protocols for child mental health is a practical and achievable goal that could significantly expand coverage.

The challenges of task-sharing in child mental health include ensuring adequate quality: simplified interventions need to preserve the key active ingredients of evidence-based approaches to be effective, and the training, supervision, and quality monitoring systems needed to ensure this quality are resource-intensive to establish and maintain. There is also a risk that task-sharing, by providing a relatively cheap alternative to specialist services, reduces political pressure for the investment in specialist services that Bangladesh also desperately needs. The evidence suggests that task-sharing and specialist services are complements rather than substitutes: the most effective systems have both.

CHAPTER ONE HUNDRED AND SIXTY: ROHINGYA CHILDREN AND ADOLESCENTS: MENTAL HEALTH IN THE WORLD'S LARGEST REFUGEE CRISIS

160.1 The Scale of Trauma and Its Meaning for Child Development

The Rohingya refugee crisis, with over one million people displaced into Cox's Bazar district of Bangladesh following the 2017 campaign of ethnic violence in Myanmar, represents the largest single site of refugee concentration in the world and one of the greatest child mental health emergencies in recent decades. Approximately 55 percent of the Rohingya refugee population are children and adolescents, amounting to roughly 550,000 to 600,000 young people, many of whom have lived their entire conscious lives in the camps of Cox's Bazar.

The trauma exposure of Rohingya children is extraordinary in both severity and scope. Most children currently living in the camps either directly witnessed or were displaced by violence that included killing of family members, rape and sexual violence, burning of villages and property, and forcible displacement. Many who arrived as very young children experienced these events during sensitive developmental periods in which trauma exposure is particularly damaging. Children born in the camps have grown up in conditions of chronic adversity: extreme crowding, inadequate sanitation, limited access to education, absence of meaningful occupation, and profound uncertainty about the future.

The documented rates of PTSD in Rohingya children are extraordinarily high, with multiple studies reporting rates of 40 to 60 percent meeting criteria for PTSD or subsyndromal PTSD. Depression, anxiety, complicated grief, conduct problems, and regression in younger children are also highly prevalent. The cumulative psychosocial impact of living for years in conditions of displacement and deprivation, without hope of return and without access to the normal developmental scaffolding of education, play, and meaningful community life, creates a mental health burden that extends well beyond the acute trauma response.

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160.2 The Mental Health Response: What Has Been Done and What Is Still Needed

The mental health response to the Rohingya crisis in Cox's Bazar has been substantial compared to many refugee crises, with multiple international organizations including WHO, UNHCR, UNICEF, MSF (Médecins Sans Frontières), and IMC (International Medical Corps) providing psychological first aid, more structured psychosocial support, and some specialist mental health care. However, the response remains grossly inadequate relative to the scale of need.

Psychological first aid (PFA) has been delivered at scale during the acute phases of displacement. PFA is not a therapy but a framework for humane, compassionate support that helps survivors feel safe, connected, calm, and hopeful, and that links those with more serious needs to appropriate services. It can be delivered by trained community workers without professional mental health training and is an important first response in acute emergencies.

More structured psychosocial support, including structured activities programs for children, group-based support for women, and community engagement programs, has been delivered by multiple organizations. These programs draw on the evidence that structured, safe activity, social connection, and meaningful engagement are protective for mental health in adversity, even without addressing specific psychiatric symptoms.

Specialist mental health care has been available to a very small proportion of those with serious need. The Interagency Standing Committee Guidelines on Mental Health and Psychosocial Support in Emergency Settings (2007, updated 2015) provide the framework for the mental health response, with a pyramid structure from basic services and security (the base) through community and family supports, focused non-specialized supports, to specialist services at the apex. In practice, the upper tiers of the pyramid, including specialist assessment and treatment for PTSD, depression, psychosis, and child psychiatric disorders, are very thinly resourced in Cox's Bazar relative to the scale of need.

The educational situation of Rohingya children requires specific attention in the mental health context. The restriction of Rohingya children to learning centers within the camps, rather than integration into the national education system, limits both the educational content they can receive and the quality of the protected developmental environment that education provides. The child-friendly spaces and learning centers that have been established represent important mental health resources for children in the camps, but their quality, coverage, and sustainability require ongoing investment.

160.3 Culturally Adapted Interventions for Rohingya Children

The delivery of mental health interventions to Rohingya children requires careful cultural adaptation. The Rohingya have their own distinct language, cultural practices, and spiritual frameworks that shape both the experience of distress and the pathways to healing. The common assumption that evidence-based interventions from high-income countries can simply be translated and delivered in refugee settings has been repeatedly challenged by both research and experience.

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Several evidence-based interventions have been adapted for Rohingya children with varying degrees of cultural sensitivity. A simplified, locally adapted version of Interpersonal Therapy for Groups (IPT-G) has been delivered to Rohingya adolescent girls with symptoms of depression, with positive results in a controlled trial. Structured, trauma-focused activity programs for children, drawing on both evidence-based approaches and Rohingya cultural practices including storytelling, art, and music, have been developed by several organizations with good acceptability. Caregiver wellbeing and parenting programs for Rohingya parents, integrating evidence-based parenting principles with Rohingya cultural practices around child-rearing, have shown promise in reducing both parental distress and child behavioral problems.

The involvement of Rohingya community members, particularly community health workers (CHWs) drawn from the refugee community itself, as the primary deliverers of mental health support is both a practical necessity (given the shortage of Rohingya-speaking mental health professionals) and a cultural asset (community workers share the language, culture, and lived experience of those they serve). The training, supervision, and support of Rohingya CHWs in basic mental health support and psychological first aid is one of the most important components of the mental health response to this crisis.

CHAPTER ONE HUNDRED AND SIXTY-ONE: CHILD AND ADOLESCENT MENTAL HEALTH IN SPECIAL POPULATIONS: STREET CHILDREN, CHILD LABORERS, AND GIRLS IN EARLY AND FORCED MARRIAGE

161.1 Street Children in Bangladesh: Invisible and Vulnerable

Bangladesh has a substantial population of street children: children living or working on the streets of major cities, outside regular family care and without the protection of household membership. Estimates of the number of street children in Bangladesh vary widely and are methodologically difficult to obtain given the mobility and invisibility of this population, but figures in the range of 500,000 to over one million have been cited for children living on the streets of Dhaka alone. The majority are boys, though a significant minority are girls, and many are not entirely without family but are involved in street-based economic activities while maintaining some connection to a family household.

Street children in Bangladesh represent a population of extreme mental health vulnerability. Their backgrounds typically include poverty, family dissolution or dysfunction, parental death, domestic violence, and displacement. Their daily lives involve multiple physical and psychological hazards: exposure to violence from adults and peers, sexual exploitation, substance use (most street children in Bangladesh use inhalants including glue and petrol fume, or other substances as a way of managing hunger, cold, and distress), criminalization, and the absence of any stable protective adult relationship. The rates of depression, PTSD, conduct disorder, substance use disorders, and intellectual disability in street child populations in Bangladesh are substantially higher than in the general population, and the almost complete absence of mental health services reaching this population represents a profound failure of care.

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Effective mental health interventions for street children in Bangladesh must be delivered within the settings and through the organizations that already have contact with this population. Several NGOs, including Aparajeyo Bangladesh, Shishur Sheba, and others, provide drop-in centers, temporary shelter, non-formal education, vocational training, and some basic health services for street children. Integrating mental health support into these existing platforms, including basic counseling, group activities, and referral pathways for more serious conditions, is the most feasible approach and represents an important priority for both NGO programs and government policy.

161.2 Child Labor and Mental Health

Child labor, which refers to work that deprives children of their childhood, their potential, and their dignity, and that is harmful to physical and mental development, remains a serious problem in Bangladesh despite legal prohibitions. Bangladesh's ratification of ILO Conventions 138 and 182, which address minimum age for employment and the worst forms of child labor respectively, reflects international commitments that are not yet fully realized in practice.

The formal garment industry, which is the backbone of Bangladesh's export economy, employs a substantial number of workers below the legal minimum working age, particularly in subcontracting workshops and home-based production. Domestic service employment of girls is a particularly hidden and potentially exploitative form of child labor, in which girls from poor rural families work in urban households with no labor protection, no access to education, and high vulnerability to physical, emotional, and sexual abuse.

The mental health consequences of child labor are complex and context-dependent. Not all work by children is equally harmful: moderate, age-appropriate contributions to household economic activities may have relatively limited developmental consequences and may even build some skills. The most damaging forms of child labor involve hazardous working conditions, extremely long hours, physical and emotional abuse by employers, deprivation of education, and the complete absence of age-appropriate play and social development. For children in these most harmful forms of labor, rates of depression, PTSD, anxiety, developmental delay, and conduct problems are substantially elevated.

161.3 Girls in Early and Forced Marriage: The Mental Health Consequences of a Developmental Catastrophe

Early marriage, defined as marriage before the age of 18, affects a tragically high proportion of Bangladeshi girls. Available estimates suggest that approximately 59 percent of Bangladeshi women aged 20 to 24 were married before age 18, with approximately 22 percent married before age 15. Bangladesh thus consistently ranks among the countries with the highest rates of child marriage globally, a status that represents a profound failure of child protection despite years of policy commitment and programming effort.

The mental health consequences of early marriage for Bangladeshi girls are extensive and severe, representing what is arguably the most important specific driver of female adolescent

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mental health problems in Bangladesh. The developmental catastrophe of early marriage encompasses several intersecting harms.

The forced discontinuation of education, which affects the majority of girls who marry before completing secondary school, removes one of the most important protective factors for adolescent mental health: the structure, social engagement, and cognitive development that school provides, as well as the future economic opportunities that education enables. Girls who leave school to marry typically have no pathway back into education and may spend decades in domestic roles that provide limited intellectual stimulation or opportunity for self-development.

The transition from childhood to adult marital and reproductive roles for which girls are developmentally and psychologically unprepared creates profound identity disruption and role overload. The expectation of sexual compliance, pregnancy, and the management of a household and relationship with in-laws places demands on girls that most are not equipped to meet without serious psychological cost.

Intimate partner violence is more common in early marriages than in adult marriages, reflecting the greater power differentials, the less mature conflict resolution skills of very young husbands, and the greater social isolation of young brides. The mental health consequences of IPV, including depression, PTSD, and suicidal behavior, are compounded by the absence of social permission to leave or resist the abusive relationship.

Perinatal mental health is severely affected by early marriage and early pregnancy. Adolescent girls who become pregnant early face higher rates of antenatal and postnatal depression than adult women, compounded by their developmental unreadiness for the maternal role, their reduced social support, and the physical risks of early pregnancy. The consequences for both the mother's mental health and the child's early development are profound.

The policy response to early marriage in Bangladesh has been complicated and to some extent contradictory. The Child Marriage Restraint Act 2017, which was meant to strengthen the legal prohibition of marriage before 18, controversially included a provision allowing marriages below the minimum age "in special circumstances," which critics argued effectively legitimized child marriage. The ongoing effort to end child marriage through the combination of legal reform, community awareness, girls' education programs, economic incentives for delaying marriage, and social norm change represents a sustained public health and human rights imperative whose mental health dimensions deserve prominent recognition.

CHAPTER ONE HUNDRED AND SIXTY-TWO: PHILOSOPHICAL, ETHICAL, AND PUBLIC HEALTH PERSPECTIVES ON CHILD AND ADOLESCENT MENTAL HEALTH IN BANGLADESH

162.1 The Philosophy of Child Rights and Its Application to Mental Health

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The philosophy of children's rights, codified internationally in the United Nations Convention on the Rights of the Child (UNCRC), which Bangladesh ratified in 1990, provides a normative framework for thinking about the duties of society toward the mental health of children. The UNCRC establishes four fundamental principles: non-discrimination (all children have equal rights regardless of their background), best interests (the best interests of the child shall be a primary consideration in all decisions affecting children), survival and development (children have the right to life and to development to their fullest potential), and participation (children have the right to express their views and to have those views taken seriously).

The application of these principles to child mental health in Bangladesh exposes profound gaps between normative commitment and practical reality. The non-discrimination principle requires that children with mental disorders have equal access to health care as those with physical disorders: the massive treatment gap documented in the epidemiological literature represents a straightforward violation of this principle. The best interests principle requires that decisions about children's lives, including decisions about forced marriage, child labor, and educational withdrawal, be made with serious consideration of the child's psychological and developmental needs: the persistence of these practices reflects the subordination of children's interests to economic and social forces. The participation principle requires that children be involved in decisions about their mental health care: clinical practice in Bangladesh rarely involves children themselves in any meaningful way.

The tension between collective and individual rights is particularly acute in the context of child mental health in Bangladesh. The UNCRC reflects a primarily individualistic human rights framework that emphasizes the rights of the individual child against the claims of families, communities, and states. Bangladeshi cultural values, as noted throughout this textbook, emphasize collective obligations and family solidarity over individual rights in ways that are deeply embedded and genuinely valued. Navigating this tension in clinical practice requires neither the imposition of an alien individualism nor the abandonment of child rights principles, but a process of thoughtful cultural negotiation that honors both the genuine value of family solidarity and the fundamental dignity and developmental needs of each child.

162.2 The Ethics of Consent in Child and Adolescent Psychiatry

The ethics of consent in child and adolescent psychiatry involves navigating several distinct and sometimes competing moral demands. The legal framework is that parents or legal guardians consent to medical treatment on behalf of children who are too young to give meaningful consent themselves. This parental consent framework reflects both the developmental reality that young children cannot make complex decisions about medical treatment and the legitimate role of parents as the primary protectors of their children's interests.

However, the parental consent framework has important limitations. Parents do not always act in the best interests of their children. Parental decisions about mental health treatment may be influenced by stigma, financial considerations, cultural beliefs, and the parents' own mental health problems. Adolescents, as they develop toward adult capacity, have an increasingly legitimate claim to be involved in and to direct decisions about their own health care. The concept of "Gillick competence," developed in English law and widely applied in medical ethics

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internationally, holds that a child below the legal age of majority may nevertheless consent to medical treatment if they have sufficient maturity and intelligence to understand the nature of the treatment and its implications. This principle is not embedded in Bangladeshi law or clinical practice, but its underlying insight, that adolescent developing autonomy deserves increasing recognition even before the legal age of majority, has clinical and ethical weight.

The particularly challenging question in Bangladeshi child psychiatry concerns the circumstances in which a clinician should diverge from the parents' decision about a child's mental health care. When parents refuse evidence-based treatment for a seriously ill child, when parental decisions appear to be driven primarily by stigma or denial rather than by genuine consideration of the child's interests, and when the child themselves is requesting help that the parents are refusing, the clinician faces a genuine ethical conflict between respect for parental authority and the duty to act in the child's best interests. The resolution of these conflicts requires both ethical clarity about the child's fundamental right to treatment and practical wisdom about how to engage with families in ways that ultimately serve the child's interests.

162.3 Child Mental Health as a Public Health Priority: The Economic and Social Case

The argument for investing in child and adolescent mental health in Bangladesh rests not only on the humanitarian grounds of reducing suffering but on a powerful economic and social case.

Mental disorders that first emerge in childhood and adolescence account for a large proportion of the lifetime burden of mental illness. The World Health Organization has calculated that 50 percent of all lifetime mental disorders have their onset before age 14, and 75 percent before age 24. This means that investing in early detection and treatment of child and adolescent mental disorders is in effect investing in the prevention or mitigation of adult mental illness, with all its associated costs in terms of reduced productivity, health care utilization, and social functioning.

The economic costs of child mental health problems in Bangladesh are poorly quantified but likely substantial. Conduct disorder in particular is associated with significant costs to the educational system (exclusion from school, requiring additional educational support), the criminal justice system (police, court, and incarceration costs associated with juvenile delinquency), the social welfare system, and the broader economy through reduced educational attainment and subsequent lower lifetime earnings. Depression and anxiety in adolescents impair educational achievement, reducing the human capital return on educational investment. Unrecognized and untreated ADHD produces years of educational underachievement and associated costs. Suicidal behavior, with its direct costs in terms of emergency care, hospitalization, and investigation, and its immense indirect costs in terms of lives lost and productivity foregone, represents both a human tragedy and an economic drain of significant scale.

The economic case for investment in child mental health, while it should not be the primary argument (which should rest on human dignity and suffering), is powerful and should be made explicitly to policy-makers who are focused on the economic development agenda. Every taka invested in effective child mental health services generates returns in reduced future mental illness, improved educational outcomes, reduced crime, and higher lifetime productivity. The

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rates of return on early childhood development investments documented in the economics literature, associated with figures like James Heckman, provide strong support for prioritizing early investment in child and adolescent mental health as a development strategy.

CHAPTER ONE HUNDRED AND SIXTY-THREE: CONTROVERSIES IN CHILD AND ADOLESCENT PSYCHIATRY

163.1 The Diagnostic Expansion Controversy: Are We Pathologizing Normal Childhood?

One of the most persistent and important controversies in child and adolescent psychiatry concerns the apparently relentless expansion of diagnostic categories and the resulting concern that the field is medicalizing the normal range of childhood behavior and experience. This concern is not simply a matter of academic interest: it has direct implications for how children are understood, treated, and socially categorized.

The expansion of ADHD diagnosis provides the most vivid illustration of this controversy. In the United States, rates of ADHD diagnosis have increased dramatically over recent decades, with estimates suggesting that approximately 10 to 12 percent of American school-age children carry the diagnosis, rates that are substantially higher than most other high-income countries and vastly higher than the 3 to 5 percent prevalence rates derived from careful epidemiological studies using strict criteria. The drivers of this diagnostic expansion include the broadening of diagnostic criteria over successive DSM revisions, commercial incentives in the pharmaceutical industry to expand the market for stimulant medications, the convenience of pharmacological solutions for teachers and parents overwhelmed by demanding children, and the real difficulties that some children face in school environments that are poorly adapted to developmental diversity.

In Bangladesh, where ADHD is dramatically underdiagnosed rather than overdiagnosed, the immediate policy concern runs in the opposite direction. However, the analytical insight of the diagnostic expansion critique remains important: any expansion of mental health services and diagnostic capacity in Bangladesh should be accompanied by careful attention to the quality of diagnostic assessment, the cultural and social context of behavioral problems, and the risk of pathologizing responses to genuinely difficult social circumstances as individual medical problems.

The diagnosis of bipolar disorder in children and adolescents is another area of significant controversy. The dramatic increase in pediatric bipolar disorder diagnoses in the United States in the 1990s and 2000s, often based on a broadened and disputed concept of pediatric bipolar disorder that emphasized chronic mixed states, severe mood lability, and irritability rather than the episodic course characteristic of adult bipolar disorder, was criticized as both scientifically unsound and clinically harmful. Many children diagnosed with pediatric bipolar disorder may have been better understood as having severe ADHD, conduct disorder, or complex trauma presentations, conditions that require different interventions and that carry different implications

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for long-term prognosis. In Bangladesh, where the infrastructure for careful, longitudinal diagnostic assessment is limited, the risk of misdiagnosis in this area is particularly high.

163.2 The Antidepressant-Suicide Controversy in Adolescents

The question of whether antidepressants increase the risk of suicidal behavior in adolescents is one of the most practically important controversies in child and adolescent psychopharmacology. In 2004, the US FDA issued a black box warning on all antidepressants prescribed for individuals under the age of 18, based on a meta-analysis of placebo-controlled trials that found a statistically significant increased rate of suicidal ideation and behavior (though not of completed suicide) in adolescents treated with antidepressants compared to placebo. This warning was controversial from the outset, because the same meta-analysis showed clear efficacy of antidepressants in reducing depressive symptoms, and because there was concern that the warning might discourage prescribing of antidepressants for adolescents with genuine need, potentially increasing the overall risk of suicide through undertreatment.

Subsequent analyses have produced a complex picture. Several studies have suggested that the FDA warning was followed by reductions in antidepressant prescribing for adolescents in the United States, and that these reductions were associated with increases in adolescent suicide rates, supporting the view that the warning may have had paradoxical harmful effects. At the same time, the signal of increased suicidal ideation associated with antidepressant treatment in adolescents, while modest in absolute terms, is real and requires clinical management.

The current best evidence-based position is that antidepressants, particularly fluoxetine, are effective for adolescent depression and that their use is appropriate in cases where the severity of depression is sufficient, where the potential benefit outweighs the risk, where the adolescent and family are informed of the risks, and where careful monitoring is in place. The monitoring protocol should specifically include close follow-up in the first weeks of treatment when the risk of increased suicidal ideation is highest, clear instructions to the family about what to watch for, and rapid access to clinical support if concerns arise.

In Bangladesh, the controversy takes a somewhat different form. The shortage of psychiatrists and the absence of structured monitoring systems means that antidepressants prescribed for adolescents, whether in specialist or general practice settings, are often not accompanied by the careful monitoring that the evidence base recommends. The practical challenge is to develop and implement feasible monitoring protocols in the Bangladeshi context that can detect emerging suicidal ideation in adolescents on antidepressants, without creating barriers to treatment that leave more adolescents with untreated severe depression.

163.3 Technology, Screen Time, and Causation: What Do We Actually Know?

The intense public concern about the effects of screen time and social media use on adolescent mental health has generated a large body of research, but also a significant controversy about the quality and interpretation of that research. The debate reflects a broader tension in the field between the urgency of responding to apparent population-level trends in adolescent mental

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health and the requirements of scientific rigor for establishing causation rather than mere correlation.

The core empirical controversy concerns whether the documented associations between heavy social media use and adolescent mental health problems represent causal relationships or confounded associations. The critics of the causal interpretation, associated particularly with the work of Amy Orben, Andrew Przybylski, and colleagues, have argued that the associations between social media use and adolescent well-being are very small in magnitude, are not consistently replicated across studies, and may reflect reverse causation (adolescents who are already depressed or anxious using social media more) rather than the direction assumed in most public discourse. They have argued that the effect sizes are comparable to other mundane associations like eating potatoes or wearing glasses, and that the policy response of restricting adolescent social media use is not warranted by the available evidence.

The proponents of a causal interpretation, associated with Jonathan Haidt and Jean Twenge in particular, argue that the timing of worsening adolescent mental health trends in many countries, particularly the acceleration of depression, anxiety, and suicidal behavior in girls from approximately 2012 onward, coincides too precisely with the widespread adoption of smartphones and social media to be coincidental. They argue that the specific mechanisms through which social media affects adolescent mental health, including social comparison, cyberbullying, sleep displacement, and the crowding out of in-person social interaction, are biologically and psychologically plausible and are supported by experimental evidence.

The most judicious reading of this controversy is that heavy and passive social media use is probably genuinely associated with some mental health risk in adolescents, particularly girls, through several intersecting mechanisms, but that the magnitude of this effect is modest relative to other risk factors including poverty, family dysfunction, and trauma, and that restricting social media use without addressing these other factors will not by itself produce meaningful improvements in adolescent mental health. For Bangladesh, this suggests that social media risks deserve serious attention but should not be allowed to dominate the policy agenda at the expense of the far larger and more established risk factors of poverty, child maltreatment, early marriage, and academic pressure.

CHAPTER ONE HUNDRED AND SIXTY-FOUR: COMPREHENSIVE CASE STUDIES FOR PART ELEVEN

Case Study 11.1: Conduct Disorder and Family Dysfunction in a Dhaka Slum Child

Rahim is a 10-year-old boy from a slum settlement in Mirpur, Dhaka, referred to a child outpatient clinic by a social worker following his third police contact in six months for theft. He is the third of five children of a family that migrated to Dhaka from Jamalpur eight years previously when their agricultural land was eroded by flooding. His father works as a day laborer in construction and is absent from the household for weeks at a time. His mother works as a domestic servant in a nearby apartment building and is home for only part of each day.

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There is significant conflict between the parents when the father is home, including episodes of domestic violence. The oldest sibling, a 16-year-old sister, supervises the younger children in the mother's absence, but struggles with the responsibility.

Rahim's development was described as normal until approximately age 7, when his behavior began to deteriorate following a particularly severe flooding event that inundated their settlement and destroyed most of the family's possessions. He began to spend increasing amounts of time on the streets with a group of older boys, began stealing from vendors in the local market, and became aggressive and physically threatening toward his siblings. His school attendance has been erratic, and his performance when he does attend is poor. His teacher describes him as "impossible to manage."

Assessment reveals a boy who is guarded and superficially dismissive in the assessment encounter but who, during a play-based session, reveals significant anxiety, grief about his grandmother who died during the flooding, and intense anger toward his father. He does not display callous-unemotional traits: he shows appropriate empathy when discussing his youngest sibling's recent illness. His intellectual function appears to be in the low-normal range. He meets diagnostic criteria for conduct disorder, childhood-onset type, with no evidence of callous-unemotional traits, a profile associated with a relatively better prognosis than the callous-unemotional subtype.

Formulation identifies the key maintaining factors: the peer deviance influence of the older street group, the inadequate parental supervision, the family stress and conflict, the unresolved grief and post-traumatic stress related to the flooding, and the educational disengagement that removes a potential protective factor.

Management involves several components delivered through the social worker and a community mental health worker trained by the clinic. A family meeting involves the mother and, eventually, the father in understanding Rahim's behavior in its developmental and contextual frame rather than through a moral lens of badness. Basic parenting skills work, adapted from a brief version of Positive Parenting Program materials translated into Bangla, focuses on establishing consistent routines, increasing positive attention for prosocial behavior, and developing firm but non-violent responses to rule-breaking. Active work with the school, mediated by the social worker, reduces the barriers to school attendance and initiates remedial academic support. A brief grief-focused intervention addresses Rahim's unresolved loss. Over a 12-month period, Rahim's street contacts reduce significantly, his school attendance improves, and his stealing behaviors cease, though he remains a challenging child to manage in the context of persistent family and social stress.

This case illustrates the importance of contextualizing conduct problems within their developmental and social history, of working systemically with family and school rather than treating the child in isolation, and of the practical value of trained community mental health workers in delivering effective interventions in severely resource-limited settings.

Case Study 11.2: Adolescent Depression and Examination Failure Suicide Attempt

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Nazmun is a 16-year-old girl from a middle-class family in Chittagong, the second of three children of a civil servant father and a homemaker mother. She is brought to the emergency department of a private hospital following an overdose of her mother's sleeping tablets, taken the day after receiving the results of her SSC examination in which she failed two papers.

Her parents are in a state of intense distress and shame. The father describes himself as "disgraced" by his daughter's examination failure and is unable to contain his anger in the presence of the clinical team, repeatedly asking how this could have happened and what the neighbors will think. The mother, who appears tearful and frightened, discloses that Nazmun had been "sad and quiet" for months before the examination and that she had mentioned once, about a week earlier, that "it would be better if I wasn't here," but the mother had dismissed this as "normal examination nerves."

Nazmun is medically stabilized and assessed by the consultation-liaison psychiatry team. She is cooperative but emotionally subdued. She describes a six-month history of depressed mood, loss of interest in activities she previously enjoyed (she used to be an enthusiastic singer), persistent hopelessness, difficulty concentrating on her studies, disturbed sleep, and a sense that she was "useless" and "a burden" to her family. The examination failure felt, in her words, like "proof that I am worthless." She had not told anyone about her feelings because she feared disappointing her parents and because she believed that mental health problems were a sign of weakness.

She has no previous psychiatric history. There is no family history of mental illness disclosed, though the mother's use of sleeping tablets and her subdued affect raise a question about untreated maternal depression. There are no psychotic symptoms. The overdose intention was clear and deliberate: she had planned it for three days before taking the tablets.

Assessment reveals a moderate to severe major depressive episode with a recent serious suicide attempt, a family environment characterized by high achievement pressure and limited emotional attunement, and a cultural context in which help-seeking for mental distress is heavily stigmatized. The immediate risk is assessed as significant given the severity of the attempt, the continuing hopelessness, and the family's currently punitive rather than supportive response.

The management plan involves several elements. Inpatient admission is recommended for acute safety management and for the opportunity to work with the family during the critical acute period. This recommendation meets initial resistance from the father, who is concerned about social exposure, but is eventually accepted when the clinical team explains clearly that it is medically necessary and discusses how discretion will be maintained.

During the admission, Nazmun is started on fluoxetine 10 mg, with a plan to increase over two weeks. She begins individual CBT with a psychologist, focusing on the identification of depressive cognitions, their connections to her examination performance, and the underlying schemas about her worth and value. The family work is essential and challenging: multiple sessions with both parents, initially separately, address the father's need to understand depression as a medical condition rather than a moral failure, the mother's need to feel empowered to provide emotional support, and both parents' need to develop a more

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differentiated view of Nazmun's worth that is not entirely dependent on her academic performance. The father's initial hostility gradually gives way to distress and then to genuine concern for his daughter.

Upon discharge, a safety plan is established and reviewed with the family. Nazmun is enrolled in a support group for adolescents with depression facilitated by a psychologist in private practice. She is given information about repeating her examinations through the improvement pathway and is supported in conceptualizing this as a practical challenge rather than a permanent marker of failure. Over a twelve-month follow-up, her depression remits with maintained treatment, she successfully re-sits her examinations, and the family relationships, while still characterized by high expectations, have developed more capacity for emotional attunement and support.

The case illustrates several important themes: the critical role of academic pressure in adolescent depression and suicide risk in Bangladesh; the importance of family involvement in treatment; the barriers created by stigma and shame; and the possibility of genuine positive change in family dynamics through skilled clinical engagement.

Case Study 11.3: Post-Traumatic Stress Disorder in a Rohingya Child

Ayesha is a 9-year-old Rohingya girl currently living in a family shelter in the Kutupalong camp in Cox's Bazar. She arrived in Bangladesh with her mother and two younger siblings in 2017 when she was two years old. Her father was killed in Myanmar before the family fled. She has no memory of the journey from Myanmar, but her mother describes a horrific experience of violence, near-drowning, and multiple losses during the displacement.

Ayesha is referred to a mental health support team working within the camp by a community health worker who has observed that she screams and becomes inconsolable during storms, that she frequently wakes crying from nightmares, and that she has become extremely clingy with her mother and refuses to be separated from her even to attend the learning center.

Assessment, conducted with the assistance of a Rohingya interpreter, reveals that Ayesha has been having recurrent nightmares involving images of fire, screaming, and separation from her mother. During the recent severe monsoon rains, she experienced intense physiological symptoms of arousal including racing heart, trembling, and difficulty breathing, together with a feeling that "it is happening again," though she cannot clearly articulate what "it" is, since her explicit memories of the original displacement are absent. She is persistently hypervigilant, startles easily, and has significant avoidance of anything that reminds her of the feared scenario: she cannot tolerate the sound of shouting or screaming and refuses to go near the camp perimeter.

Her mother, who is herself severely traumatized and moderately depressed, has been doing her best to protect Ayesha from frightening stimuli but has not had the resources to understand or address the specific nature of Ayesha's distress. She has interpreted Ayesha's difficulties as "she is afraid because she knows bad things happen," which is contextually accurate but does not reflect an understanding of PTSD as a treatable condition.

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The assessment reveals childhood PTSD (ICD-11) with conditioned physiological responses to trauma cues (principally weather, noise, separation), avoidance behaviors, re-experiencing through nightmares, and hyperarousal. Maternal depression is also identified and needs simultaneous management.

The intervention involves a culturally adapted form of Trauma-Focused CBT delivered by a Rohingya community health worker trained by the mental health support team. The intervention involves eight sessions with Ayesha and her mother together, and four additional sessions with the mother focused on her own trauma and depression. The components include psychoeducation about PTSD framed in culturally accessible terms (the body remembering danger even when the danger is past); graduated, supported exposure to trauma-related cues beginning with the least frightening (mild rain sounds) and progressing, over weeks, to more challenging ones; relaxation and grounding techniques taught in Rohingya language with culturally familiar imagery; a simple trauma narrative created by Ayesha using drawings rather than words, reviewed with the therapist to process the associated emotions; and parallel work with the mother on her own coping and on ways of supporting Ayesha's gradual recovery of security.

Eight weeks after beginning the intervention, Ayesha's nightmares have reduced from nightly to two or three times per week. She is able to attend the learning center, though she still needs her mother to accompany her. She no longer becomes inconsolable during rain. Her mother reports feeling less helpless in response to Ayesha's distress and describes herself as "a little less scared too."

This case illustrates the feasibility of effective, trauma-focused interventions for children with PTSD in humanitarian settings when they are delivered by trained community workers using culturally adapted protocols, the importance of addressing caregiver mental health as part of the child's intervention, and the resilience of children when given appropriate support.

Case Study 11.4: ADHD and Academic Failure in a Rural Child

Kamal is an 11-year-old boy from a fishing village in Bhola district who is brought to the outpatient department of the district hospital by his father following his second failure in the class four annual examination. The father, a fisherman with primary school education, is deeply confused and distressed: his son is "not stupid," he says, "he knows all about fishing, he can fix the boat engine, but he cannot sit still in school."

Teachers at Kamal's school describe him as the "most difficult child in the school." He cannot remain in his seat for more than a few minutes, constantly disrupts other students, calls out answers without raising his hand, misses instructions because he is distracted by activity outside the window, and frequently forgets to bring books and materials to school. He has been physically punished by two different teachers for this behavior, which the father describes with resignation as "normal for a troublesome boy."

Direct assessment at the district hospital clinic, conducted by a physician who has received mhGAP training, includes structured observation of Kamal during the assessment session,

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during which he demonstrates almost continuous motor activity, frequent topic-switching, difficulty maintaining attention on tasks, and frequent distraction by incidental stimuli. He is friendly, engaging, and clearly intelligent, with vivid and detailed accounts of his observations about birds, fish, and boat maintenance. He shows no features of conduct disorder or oppositional defiant disorder. His development was normal and there is no history of seizures or head injury. His hearing and vision are intact.

The mhGAP-trained physician makes a clinical diagnosis of ADHD, predominantly combined presentation, and presents this to the father in terms that make clinical sense within a rural Bangladeshi cultural framework: "Kamal's brain works very fast and is always looking for new things. In the sea, this would make him a very good fisherman. In the classroom, which is designed for slower and quieter brains, it creates difficulties."

The management plan, implemented within the constraints of the district hospital setting, involves several components. The physician writes a letter to Kamal's school explaining the diagnosis and recommending specific classroom accommodations: preferential seating near the front, shorter tasks with frequent breaks, verbal rather than written instructions confirmed by the child, and elimination of physical punishment. These recommendations are received with initial skepticism by the school but gradually adopted as Kamal's performance improves. An application for methylphenidate is initiated through the referral pathway to the divisional psychiatry center, which involves a waiting period of several weeks. While awaiting the medication, the physician provides the father with practical behavioral strategies for home: consistent routines, brief and clear instructions, immediate positive feedback for task completion, and physical activity outlets before homework time.

Six months after diagnosis, Kamal is on methylphenidate 5 mg twice daily. His school performance has improved significantly: he is passing subjects that previously seemed impossible. His teacher, while still describing him as "energetic," reports that he can now complete tasks and that his relationships with classmates have improved. His father is visibly relieved and describes the change in his son as "like someone turned on a light."

This case illustrates the feasibility of ADHD diagnosis and management at the district hospital level in Bangladesh with mhGAP training, the importance of working with the school as well as the family, and the transformative effect that accurate diagnosis and appropriate treatment can have on a child's educational trajectory.

CHAPTER ONE HUNDRED AND SIXTY-FIVE: INVESTIGATION PROTOCOLS FOR CHILD AND ADOLESCENT MENTAL HEALTH IN BANGLADESH

165.1 Investigations for Developmental Disorders and Intellectual Disability

The investigation of children presenting with global developmental delay or intellectual disability in Bangladesh should be guided by clinical findings and by the level of available resources. At the primary care level, the priorities are hearing assessment (since undetected

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hearing loss is a common and highly treatable cause of apparent developmental delay), vision assessment, and assessment for severe malnutrition. Blood tests at this level should include hemoglobin (anemia), lead level where environmental lead exposure is a concern (which is relevant in urban Bangladesh given the pollution levels), and thyroid function tests.

At the district hospital level, the investigation protocol expands. Blood count and film, iron studies, and thyroid function form the baseline. Metabolic screening may be considered for specific presentations suggesting inborn errors of metabolism. Where available, chromosomal microarray or at minimum karyotyping should be offered when a specific syndrome is suspected. Brain MRI or CT scan, when accessible, is important when the history or examination suggests acquired brain damage, progressive neurological disorder, or structural brain anomaly. EEG is indicated when epilepsy is part of the clinical picture.

At tertiary level, genetic assessment including chromosomal microarray, gene panel testing, or whole-exome sequencing may be appropriate for children with unexplained intellectual disability, multiple anomalies, or a family history suggesting a genetic condition. Metabolic workup including amino acids, organic acids, and lysosomal enzyme studies is relevant for specific presentations. Neuropsychological assessment provides a detailed profile of cognitive strengths and weaknesses that guides educational planning.

165.2 Investigations for Child and Adolescent Psychosis

New-onset psychosis in a child or adolescent requires a careful medical evaluation to exclude treatable organic causes, which are proportionally more common in pediatric-onset psychosis than in adult-onset psychosis. The investigation protocol includes full blood count and blood film; metabolic panel including electrolytes, glucose, calcium, renal function, and liver function; thyroid function tests; autoimmune screen including anti-nuclear antibody (ANA), anti-double-stranded DNA, and ANCA; and critically, a comprehensive autoimmune encephalitis antibody panel, since anti-NMDA receptor encephalitis and other forms of autoimmune encephalitis can present with a clinical picture resembling acute psychosis and require immunological treatment rather than antipsychotic medication.

Brain MRI with contrast is essential in all children presenting with new-onset psychosis. Cerebrospinal fluid examination is appropriate if autoimmune encephalitis is suspected. EEG is important to exclude epileptiform activity, since temporal lobe epilepsy and certain other epilepsy syndromes can produce psychosis-like states. Urine toxicology should be performed to exclude substance-induced psychosis, which is relevant given the increasing prevalence of cannabis and other substance use in Bangladeshi adolescents.

165.3 Investigations for Child and Adolescent Depression and Anxiety

For children and adolescents presenting with depressive or anxiety disorders without specific medical features, the primary investigation is thyroid function, since both hypothyroidism and hyperthyroidism can produce mood and anxiety symptoms. A complete blood count to exclude anemia is appropriate. Where substance use is clinically suspected, urine toxicology may be relevant.

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Standardized rating scales provide important supplementary information: the Children's Depression Inventory (CDI) and the Screen for Child Anxiety Related Emotional Disorders (SCARED) provide dimensional severity ratings that supplement the clinical interview and can be used to monitor treatment response. For adolescents presenting with suicidal ideation or behavior, the Columbia Suicide Severity Rating Scale (C-SSRS) provides a structured framework for severity assessment that is important for both clinical management and safety planning.

CHAPTER ONE HUNDRED AND SIXTY-SIX: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART TWELVE

166.1 Key Themes from Part Eleven

Part Eleven has traversed the territory of child and adolescent mental health in Bangladesh with the depth and breadth that its clinical and public health importance demands. Let us consolidate the key themes that have emerged across the eighteen chapters of this part.

The scale and urgency of unmet need is the single most important fact about child and adolescent mental health in Bangladesh. Nine to ten million children and young people are estimated to have a mental disorder at any given time. The vast majority receive no care. The treatment gap is not simply a resource problem, though resources are desperately needed: it is also a knowledge problem, a stigma problem, a service design problem, and a political will problem. Addressing it requires action at all these levels simultaneously.

Developmental psychopathology provides the scientific framework through which the emergence, course, and treatment of mental disorders in children and adolescents can best be understood. The principles of multifinality, equifinality, sensitive periods, and the interaction of risk and protective factors offer a more nuanced and clinically useful account than categorical diagnostic labels alone. They argue for thorough developmental assessment, attention to the child's specific developmental pathway, and the design of interventions that address both the individual child and the multiple social systems in which they are embedded.

The social determinants of child mental health in Bangladesh are powerful and insufficiently addressed. Poverty, parental mental illness, child maltreatment, early marriage for girls, child labor, disaster exposure, and the stresses of urbanization and social change are the primary drivers of the child mental health burden. Clinical services, however important, cannot substitute for the social and economic policies needed to address these root causes.

Adolescent suicide is a public health crisis of extraordinary severity. Female adolescents are disproportionately affected, reflecting the specific social adversities of gender inequality, early marriage, sexual harassment, and academic pressure in a context of limited social support and legal protection. The response must combine clinical management of individuals at risk with population-level prevention strategies addressing the social determinants of this specific crisis.

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School mental health is both the most important platform for reaching children at scale and the most underdeveloped component of the mental health response in Bangladesh. Investment in school mental health, including teacher training, school counseling, social-emotional learning curricula, and the reform of examination-related pressures, represents one of the highest-value interventions available for improving population-level child mental health.

The Rohingya crisis has created a child mental health emergency within Bangladesh that demands a sustained, adequately funded, and culturally sensitive mental health response. The trauma burden of Rohingya children is extraordinary, the existing response is grossly inadequate, and the long-term developmental consequences of unaddressed trauma in this massive population of young people extend well beyond mental health into the future human capital and social cohesion of the community.

Task-sharing and community-based approaches are the only feasible way to address the treatment gap at scale. The evidence base for simplified, culturally adapted versions of evidence-based interventions delivered by trained non-specialist workers is strong and growing. The development of national programs for training, supervision, and quality assurance in task-sharing child mental health is an achievable and high-priority goal.

Child rights, as codified in the UNCRC and as elaborated in the philosophy of developmental psychology and ethics, provide the normative framework for understanding the duties of society to children's mental health. The massive treatment gap, the persistence of child maltreatment, child labor, and early marriage, and the absence of adequate legal protections for children with mental disorders all represent departures from these rights that demand urgent rectification.

166.2 Connections to Part Twelve

Part Twelve of this textbook turns to the other end of the life course: geriatric psychiatry and the mental health of older adults in Bangladesh. This transition is more than organizational; it reflects the importance of a lifespan perspective on mental health, in which the experiences of childhood shape the vulnerabilities and resources of middle age, and the experiences of middle age shape the resilience and decline trajectories of old age.

Several thematic connections link Part Eleven to Part Twelve. The developmental psychopathology framework, which conceives of mental disorders as the outcome of trajectories that begin in early life, implies that the mental health of older adults is partly the product of their developmental histories, including their childhood adversities and the quality of the care they received. The attachment patterns established in infancy influence the quality of social relationships across the entire lifespan, including in old age. The epigenetic changes produced by early adversity, as noted in this part, may contribute to the accelerated aging and elevated vulnerability to dementia and other late-life conditions observed in people with histories of childhood maltreatment and poverty.

Bangladesh's demographic transition, with its rapidly growing population of older adults, creates a new frontier of mental health need that the health system has not yet systematically addressed. The families of older adults with mental disorders, particularly those with dementia,

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face immense caregiving burdens in a context of changing family structures and limited formal support. And many older Bangladeshis carry the accumulated weight of decades of adversity, including the Liberation War trauma of 1971, repeated exposure to natural disasters, the losses of migration and urbanization, and the chronic stresses of poverty, into old age.

Part Twelve examines this terrain with the same depth, clinical specificity, and Bangladesh-specific analysis that has characterized Part Eleven's account of childhood and adolescence. Together, these two parts frame the entire human life course within a developmental, contextual, and explicitly Bangladeshi frame, complementing the disorder-focused analysis of earlier parts with a perspective that is organized around the people who experience mental illness rather than around the conditions themselves.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART ELEVEN

Vignette 11.1: A 7-year-old girl from a coastal district of Bangladesh is brought to a district hospital by her parents with a one-month history of refusing to sleep alone, waking frequently with nightmares involving floods and drowning, and becoming very distressed when it rains heavily. Her family home was flooded during a cyclone two months ago. She has no previous psychiatric history. How would you assess this child? What is the most likely diagnosis? What intervention would you recommend at the district hospital level, and what would you refer to a higher level?

Vignette 11.2: A 14-year-old boy from a lower-middle-class urban family in Rajshahi is brought to a psychiatry clinic by his parents following a school suspension for aggressive behavior. He has also been skipping school regularly. His parents report that he "has always been difficult" and that he was aggressive from an early age. However, the boy's own account reveals that he has been subjected to severe bullying by a group of older students for eight months, that a teacher witnessed one episode of this bullying and did nothing, and that he feels completely unsupported by the school. How does this information change your formulation? What interventions would be appropriate? How would you work with the school?

Vignette 11.3: A 17-year-old girl is brought to an emergency department after being found by her mother attempting to hang herself in her bedroom. Her mother had no idea she was depressed. The father is absent, working in Malaysia as a migrant worker. The girl has recently been rejected by a boy she had been meeting secretly, and she fears that he will expose their relationship to her family. She is medically stable but refuses to speak. How would you approach the assessment of this young woman? What are the most important risk and protective factors to assess? What would be your initial management plan?

Vignette 11.4: A 5-year-old boy from a middle-class family in Sylhet has a two-year history of limited speech (he uses single words mainly to label objects), no interest in other children, repetitive spinning of objects, distress when his routine is changed, and failure to respond to his name. His parents have been told by family members that he is "possessed by a jinn" and have taken him to a religious healer without improvement. How would you assess this child? What is

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the most likely diagnosis? How would you engage with the family's explanatory model while communicating the clinical diagnosis? What intervention would you recommend?

Vignette 11.5: A 12-year-old girl living in a Rohingya camp in Cox's Bazar is referred by a community health worker because she has been "not eating, not talking, and staring at nothing." She arrived in Bangladesh in 2017. The community health worker suspects she was subjected to sexual violence during the displacement. She does not speak with anyone outside her immediate family. How would you approach this assessment sensitively? What are the most important diagnostic considerations? What intervention would be most appropriate in the camp setting?

STUDY QUESTIONS FOR PART ELEVEN

Describe the concept of developmental psychopathology and explain how the principles of multifinality and equifinality inform clinical assessment and treatment planning in child and adolescent psychiatry. How are these principles relevant to the management of conduct disorder in Bangladesh?

Discuss the epidemiology of child and adolescent mental disorders in Bangladesh, drawing on available data including the National Mental Health Survey 2019 and subsequent studies. What are the key limitations of the available evidence base, and what research is most urgently needed?

Analyze the crisis of adolescent suicide in Bangladesh. What are the key epidemiological features, including the gender asymmetry? What are the structural social factors that drive this crisis, and what population-level prevention strategies are most appropriate?

Describe the developmental and clinical consequences of child maltreatment in Bangladesh. What are the most common forms of maltreatment in the Bangladeshi context? What are the key neurobiological mechanisms through which early maltreatment produces lasting mental health effects? What treatment approaches are most evidence-based for maltreated children?

Discuss the mental health needs of Rohingya children in Cox's Bazar. What is the scale and nature of the trauma burden? What has been done, and what is still needed? What are the principles of culturally adapted trauma-focused intervention in this setting?

Describe the principles of task-sharing as applied to child and adolescent mental health in Bangladesh. What evidence supports the effectiveness of task-sharing approaches? What are the key challenges and quality assurance requirements for task-sharing to be effective at scale?

What is the ethical framework for obtaining consent from children and adolescents for psychiatric treatment in Bangladesh? When is it appropriate to override parental decisions about a child's mental health care? How should the emerging autonomy of adolescents be reflected in clinical practice?

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Discuss the controversy about the effects of social media use on adolescent mental health. What does the best available evidence actually show? What is the significance of this controversy for public health policy and clinical practice in Bangladesh, where digital technology is transforming adolescent social experience?

FURTHER READING FOR PART ELEVEN

Developmental Psychopathology: Foundational Sources

Cicchetti, Dante and Cohen, Donald (Editors), "Developmental Psychopathology, Volume 1: Theory and Method" (third edition, 2015), is the definitive reference for the scientific foundations of the field, covering the theoretical frameworks, methods, and empirical findings that constitute the discipline's core knowledge base. Essential for anyone seeking a deep understanding of the scientific underpinnings of child and adolescent psychiatry.

Sroufe, L. Alan, Egeland, Byron, Carlson, Elizabeth, and Collins, W. Andrew, "The Development of the Person: The Minnesota Study of Risk and Adaptation from Birth to Adulthood" (2005), presents the findings of the most extensive prospective longitudinal study of child development and psychopathology ever conducted, providing the most detailed empirical account available of how early attachment experiences, adversity, and protective factors shape developmental trajectories. Its findings directly inform clinical practice and policy.

Moffitt, Terrie E., "Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy," Psychological Review (1993), is the landmark paper proposing the two-pathway model of antisocial development that continues to inform the conceptualization and treatment of conduct disorder.

Epidemiology and Bangladesh-Specific Sources

Al-Mamun, Firoj, Islam, Johurul, Muhit, Mohammad, and Mamun, Mohammed A., "Prevalence of emotional and behavioral problems among adolescents in Bangladesh," Social Psychiatry and Psychiatric Epidemiology (December 2024), provides the most current community-based epidemiological data on adolescent mental health in Bangladesh and should be read as a primary epidemiological source for Part Eleven.

The National Mental Health Survey Bangladesh 2019, published by the Bangladesh Bureau of Statistics and WHO, provides the only nationally representative data on child and adolescent mental disorder prevalence in Bangladesh. Despite its methodological limitations, it remains the essential epidemiological reference for the field.

Himel, and colleagues, "Unveiling Student Suicides in the Post-Pandemic Period: A Retrospective Analysis of Online News Portals in Bangladesh," Health Science Reports (December 2024), provides the most comprehensive systematic analysis of student suicide in Bangladesh and is essential reading for anyone concerned with adolescent suicide prevention.

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Child Maltreatment and Trauma

Cohen, Judith A., Mannarino, Anthony P., and Deblinger, Esther, "Treating Trauma and Traumatic Grief in Children and Adolescents" (second edition, 2017), provides the definitive manual for Trauma-Focused CBT, the most evidence-based treatment for child PTSD, with guidance on cultural adaptation that is relevant for the Bangladeshi and Rohingya contexts.

Teicher, Martin H., and Samson, Jacqueline A., "Childhood maltreatment and psychopathology: A case for ecophenotypic variants as clinically and neurobiologically distinct subtypes," American Journal of Psychiatry (2013), provides one of the most powerful accounts of the neurobiological mechanisms through which early maltreatment produces lasting brain changes and increased vulnerability to psychiatric disorder.

Child and Adolescent Psychopharmacology

Walkup, John T., and colleagues, "Cognitive Behavioral Therapy, Sertraline, or a Combination in Childhood Anxiety," New England Journal of Medicine (2008), is the landmark CAMS trial demonstrating the effectiveness of sertraline, CBT, and their combination for childhood anxiety, providing the primary evidence base for pharmacological treatment decisions in anxious children.

The FDA Black Box Warning on antidepressants in children and adolescents (2004, updated 2007) and the subsequent analyses of its effects on prescribing and suicide rates provide the empirical background for the controversy discussed in Chapter 163.

Rohingya Mental Health

The Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings (2007, updated 2015), while now somewhat dated, provides the foundational framework for mental health responses in humanitarian settings and remains the reference standard for the Rohingya mental health response.

Patel, Vikram, and colleagues, "The Lancet Commission on global mental health and sustainable development," The Lancet (2018), provides the most comprehensive recent account of the global mental health agenda, including extensive discussion of child and adolescent mental health in low- and middle-income countries and the evidence base for scale-up.

Part Eleven concludes here. Part Twelve addresses Geriatric Psychiatry and the Mental Health of Older Adults in Bangladesh: the epidemiology of late-life mental disorders, the neurobiology of dementia, the clinical management of depression and anxiety in older adults, the specific challenges of the Bangladeshi context including changing family structures and the growing burden of dementia care, the philosophical dimensions of aging and loss, and the public health response needed for a population in rapid demographic transition.

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PART TWELVE: GERIATRIC PSYCHIATRY AND THE MENTAL HEALTH OF OLDER ADULTS IN BANGLADESH

Epidemiology, Neurobiology, Clinical Science, Cultural Context, and the Challenge of a Society Growing Old

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INTRODUCTORY NOTE TO PART TWELVE

Part Twelve arrives at what is, by global reckoning, the fastest-growing frontier of psychiatric need in the twenty-first century. The world is aging. Bangladesh is aging. And the mental health implications of that aging are profound, poorly understood, grotesquely under-resourced, and largely invisible in public discourse. If the preceding part of this textbook forced us to look carefully at the most vulnerable phase of the beginning of life, this part asks us to look with equal care and equal compassion at the other end: at the years of accumulated experience, of loss and survival, of the quiet heroism of continuing to exist when the body has begun its slow withdrawal and the world has begun to feel less familiar, less hospitable, and sometimes less worth inhabiting.

Geriatric psychiatry is the subspecialty of psychiatry concerned with the mental health of older adults, conventionally defined as those aged 60 years and above, though the threshold of 65 is used in some systems. It occupies a peculiar position in the medical landscape of Bangladesh. As a formal subspecialty, it barely exists: there are almost no formally trained geriatric psychiatrists in Bangladesh, no dedicated geriatric mental health units, no national dementia strategy, and no systematic policy framework for addressing the mental health needs of the growing elderly population. Yet the clinical reality of late-life mental illness is everywhere: in the general medicine wards, where elderly patients with depression or delirium are treated as though they have purely physical problems; in the families of patients with dementia, who provide intensive and often devastating caregiving in total isolation from any professional support; in the communities of older widows and widowers living in what can only be described as the existential poverty of social abandonment; and in the quietly rising tide of late-life suicide that has attracted almost no systematic research or policy response.

This part is organized to address the full scope of geriatric psychiatry in Bangladesh with the depth that its clinical and public health importance demands. It begins with foundational concepts, including the philosophy and history of geriatric psychiatry and the theoretical frameworks that make it a distinct rather than merely an extension of adult psychiatry. It moves through the demographic realities of Bangladesh's aging population, the neurobiology of the aging brain, and the epidemiology of late-life mental disorders. It then addresses each of the major clinical conditions systematically: late-life depression, late-life anxiety, dementia in its several forms, delirium, late-life psychosis, and suicide in older adults. It addresses the extraordinary complexity of caregiving for people with dementia and other severe mental disorders in the Bangladeshi cultural context. It examines policy, service development, and the ethics of aging. And it concludes with comprehensive case studies and investigation protocols

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designed to equip clinicians practicing in Bangladesh with the tools they need to address the mental health needs of the older people they will encounter throughout their careers.

CHAPTER ONE HUNDRED AND SIXTY-SEVEN: INTRODUCTION TO GERIATRIC PSYCHIATRY: DEFINITIONS, HISTORY, AND PHILOSOPHICAL FOUNDATIONS

167.1 What Is Geriatric Psychiatry and Why Does It Need to Be a Distinct Field?

The question of whether geriatric psychiatry deserves the status of a distinct subspecialty is one that has been debated since the field began to organize itself in the 1960s and 1970s. The argument against distinctiveness is pragmatic: a skilled general psychiatrist should, in principle, be able to manage the mental health problems of older adults using the same knowledge base and clinical skills they apply to middle-aged adults. The argument for distinctiveness is both empirical and philosophical.

The empirical argument rests on the observation that mental disorders in older adults differ from those in younger adults in clinically significant ways. The presentation of depression in an elderly person is frequently dominated by somatic complaints, cognitive symptoms, and features like psychomotor retardation and delusions of poverty or bodily decay, rather than the subjective mood disturbance that characterizes depressive illness in younger people. Anxiety in later life is often poorly differentiated from the anxiety associated with physical illness or with dementia, and its treatment requires careful pharmacological adjustment because of the altered physiology of the aging body. Dementia, which does not occur in younger adults except in rare early-onset forms, is a condition of enormous complexity whose clinical management spans pharmacology, cognitive rehabilitation, family support, legal and ethical decision-making, and end-of-life care. Delirium, which is common in hospitalized elderly patients, has a pathophysiology, a clinical presentation, and a management approach that are substantially different from those of functional psychosis. And the co-morbidity between mental disorders and physical illness in older adults reaches levels of complexity that require specific training to navigate.

The philosophical argument for a distinct field is perhaps even more compelling. Older adults inhabit a different existential territory from younger adults. They live with the accumulation of a lifetime of experience, including losses, survivals, decisions taken and not taken, relationships formed and dissolved, and a progressive confrontation with their own mortality. Their suffering, when they suffer mentally, is shaped by this accumulated history in ways that the clinician who treats only the immediate symptom will inevitably miss. The existential dimensions of late-life depression, the terror of dementia understood as the erosion of the self, the grief of widowhood in a society that progressively marginalizes the elderly, and the specific forms of spiritual distress that accompany confrontation with death all require a form of clinical engagement that is both technically sophisticated and humanistically attuned in ways that go beyond what general adult psychiatry typically cultivates.

In Bangladesh, the case for investing in geriatric psychiatry as a distinct field is additionally strengthened by the specific contextual realities of the country. The changing family structure,

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with the erosion of the extended family and the out-migration of adult children, is producing a generation of elderly people who cannot rely on the family-based support that was the cornerstone of elder care in traditional Bangladeshi society. The legacy of collective trauma, particularly the Liberation War of 1971, has created a cohort of elderly people who carry the psychological wounds of extreme violence and loss into their old age. Climate change and repeated natural disasters have dispossessed many older Bangladeshis of the land, livelihood, and community that sustained their sense of identity and purpose. And the almost total absence of formal geriatric mental health services means that the clinical needs of this population are being met, if they are being met at all, by a health system that is entirely unprepared for the scale and specificity of what it is facing.

167.2 The History of Geriatric Psychiatry: From Custodial Neglect to a Clinical Science

The history of geriatric psychiatry as a formal discipline is surprisingly short. For most of the history of psychiatry, the mental problems of older adults were either ignored, attributed entirely to inevitable physical deterioration, or managed through custodial confinement in institutions that made no distinction between dementia and other forms of severe mental illness. The great asylum psychiatrists of the nineteenth century, including Kraepelin and Bleuler, included descriptions of what they called "senile dementia" and "arteriosclerotic dementia" in their nosological accounts, but these were peripheral concerns in a field whose primary focus was on the psychoses and mood disorders of adult life.

The emergence of geriatric psychiatry as a recognizable subspecialty began in the United Kingdom in the 1960s, partly under the influence of the broader geriatric medicine movement that had been developing since the 1940s under pioneers like Marjorie Warren. The establishment of the British Psychogeriatric Association in 1973, and the subsequent recognition of geriatric psychiatry as a distinct training pathway within the Royal College of Psychiatrists, marked the formalization of the subspecialty in the country that has remained its most active intellectual home. The Section of Old Age Psychiatry of the World Psychiatric Association, established in 1982, gave the subspecialty an international organizational structure.

In the United States, the American Association for Geriatric Psychiatry was founded in 1978, and formal subspecialty certification in geriatric psychiatry became available in 1991. The research agenda of geriatric psychiatry in the United States was shaped powerfully by the epidemiology of Alzheimer's disease and by the molecular biology revolution that, from the 1980s onward, began to elucidate the amyloid and tau pathologies that underlie Alzheimer's.

In South Asia, including Bangladesh, formal geriatric psychiatry as a subspecialty has remained almost entirely undeveloped. The reasons are multiple: the absence of formal training programs, the concentration of the limited psychiatric workforce on the urgent demands of adult psychiatric services, the low priority accorded to elder care in policy discourse, and the assumption that family-based care would continue to provide adequate support for older adults with mental health problems. A landmark call for action was published in International Psychogeriatrics in 2020 by Bangladeshi researchers Mazumder and colleagues, who documented the scale of unmet need and argued that geriatric mental health in Bangladesh required urgent attention as a matter of public health priority. The subsequent publication of dedicated chapters on geriatric

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psychiatry in Bangladesh in major Springer volumes in 2024 and 2025 reflects a slowly growing recognition of the problem, even if the practical response remains far behind the scale of need.

167.3 Philosophical Frameworks for Understanding Aging and Mental Health

The philosophy of aging and the philosophy of psychiatry intersect in geriatric psychiatry in ways that demand explicit engagement. Several philosophical frameworks have particular relevance to clinical practice in this domain.

The existentialist tradition, associated in psychiatry with figures like Viktor Frankl and Irvin Yalom, offers a framework for understanding the specific existential challenges of old age: the confrontation with finitude, the search for meaning in the face of progressive loss, the question of what constitutes a life well-lived, and the task of integrating a lifetime of experience into a coherent and acceptable narrative of self. Frankl's concept of logotherapy, developed initially in the context of his experience of the Nazi concentration camps, holds that the search for meaning is the primary human motivation and that existential despair arises when this search is frustrated. In older adults, the disruption of the sources of meaning that have sustained a person throughout their life, including work, relationships, physical capability, and the sense of being needed and valued, can produce a form of suffering that is not adequately captured by a purely symptomatic account of depression.

Erik Erikson's developmental psychology provides another important philosophical framework. Erikson's account of the life cycle identifies a series of psychosocial tasks, each of which must be negotiated at a particular stage of life. In old age, the central developmental task is what he called "ego integrity versus despair": the task of reviewing one's life and arriving at a sense of acceptance and meaning rather than bitter regret and despair about what might have been different. Erikson understood this task as genuinely psychological work that takes time and requires support, and he argued that the failure to accomplish it resulted in a form of existential despair that had features in common with clinical depression but was not reducible to it. His framework has important implications for the psychotherapy of older adults and for understanding the difference between existential suffering and pathological depression in this age group.

Buddhist philosophy, which has deep historical roots in the Bengal region and continues to influence the worldview of many older Bangladeshis, particularly those of Buddhist faith in the Chittagong Hill Tracts, offers yet another perspective on aging and mental suffering. Buddhism holds that suffering (dukkha) arises from attachment to impermanent things, including the body, health, relationships, and social roles. The progressive losses of old age, on this account, provide the occasion for a deepening of spiritual practice and a progressive release of attachment, leading, in the ideal case, to a state of equanimity and peace. This framework does not pathologize the suffering of aging in the way that a purely medical account might; it understands it as inherent in the human condition and as the occasion for spiritual growth. While Buddhism is the faith of a minority in Bangladesh, these philosophical insights have resonance well beyond the explicitly Buddhist community.

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Islamic theology and philosophy, which are central to the worldview of the overwhelming majority of elderly Bangladeshis, provide their own framework for understanding aging and suffering. In Islamic thought, old age is understood as a time of special closeness to God and as an opportunity for intensified ibadah (worship) and for the preparation of the self for the Day of Judgment. The Quran and Hadith contain multiple injunctions regarding the care and respect owed to elderly parents and other elders, and the family's duty of filial care is understood as a religious obligation of the highest order. Suffering in old age, including mental suffering, may be understood as a test from God (fitna or balaa) that, when endured with patience (sabr), carries spiritual merit (thawab). These beliefs can be both a source of genuine comfort and, in some cases, a barrier to help-seeking, if the acceptance of suffering as a divine test leads to the resignation that prevents a person from seeking available and effective treatment.

The philosophical tension between accepting the suffering of old age as a natural and potentially meaningful aspect of human existence and treating it as a clinical problem that deserves active intervention is one of the most important and least discussed challenges in geriatric psychiatry. A thoughtful clinical approach navigates this tension by taking seriously both the existential dimensions of late-life suffering and the clinical reality that much of that suffering represents treatable pathology rather than inevitable aging. Depression in an older person is not simply sadness about being old; it is a pathological state that causes immense suffering and impairs functioning, responds to treatment, and, when left untreated, increases the risk of disability, medical illness, and death. To accept it as "natural" in someone who is 70 or 80 years old is a form of age discrimination that denies them the access to care that a younger person with the same condition would receive as a matter of course.

CHAPTER ONE HUNDRED AND SIXTY-EIGHT: DEMOGRAPHIC TRANSITION AND THE AGING OF BANGLADESH

168.1 Bangladesh's Demographic Transformation: A Nation Growing Old

Bangladesh is in the midst of a profound demographic transition. The country that emerged from the Liberation War in 1971 had a young population structure, high birth rates, high mortality rates, and low life expectancy. Half a century later, the picture has changed dramatically. Fertility has fallen sharply, from a total fertility rate of approximately 6.8 births per woman in 1971 to approximately 2.0 in 2024, approaching the replacement level. Life expectancy has risen from around 47 years in 1971 to over 72 years in 2024. The under-five mortality rate has fallen from over 200 per thousand live births to around 28. The combined effect of these changes is a progressive aging of the population.

The proportion of the population aged 60 years and above has been growing steadily. According to the Bangladesh Bureau of Statistics, the proportion was approximately 7.7 percent of the total population in 2015, representing about 14 million older adults. By the early 2020s, this had risen to approximately 9.3 percent, or about 15.7 million people. The World Population Prospects of the United Nations project that the proportion of older adults in Bangladesh will continue to rise, reaching approximately 14 percent by 2040 and 20 percent by 2050. In absolute numbers,

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this means that Bangladesh may have 30 to 40 million people aged 60 and above by the middle of the century.

This demographic projection has enormous implications for the health system, for social policy, and specifically for mental health services. The burden of disease in an older population is qualitatively different from that in a younger population: chronic non-communicable diseases (NCDs) dominate, comorbidity is the rule rather than the exception, cognitive decline becomes an increasingly important contributor to disability, and the caregiving burden falls heavily on families and communities that may be unprepared for its scale and complexity.

The Bangladeshi government has been slow to recognize the implications of this demographic transition for health and social policy. A landmark analysis published in 2024 in the Journal of Population Ageing by Khoda and Kröger documented what they described as "a dearth of attention" from policymakers toward population aging in Bangladesh, noting that the existing policy frameworks were inadequate relative to the scale of the challenge and that the elderly population remained politically marginal and largely invisible in policy discourse.

168.2 Geographic and Social Dimensions of the Aging Population

The aging population of Bangladesh is not uniformly distributed across geographic and social space. Several important patterns deserve attention.

Rural-urban differences in the age structure of the population are significant. The out-migration of working-age adults to cities, to export processing zones, and to other countries has left some rural areas with unusually high proportions of older adults. In certain haor (wetland) communities of Sylhet and Sunamganj districts, and in coastal communities of Barisal and Khulna divisions, older adults may constitute 15 to 20 percent of the local population, while their adult children are working in Dhaka, in Chittagong's export processing zones, or in the Middle East and Malaysia as international migrant workers. These elderly individuals, often living as couples or, in the case of widowed women, alone or with young grandchildren, face the double burden of economic insecurity and social isolation.

Gender differences in aging are also important. Women in Bangladesh have, on average, a longer life expectancy than men, which means that the older population is disproportionately female. This matters enormously for mental health, because older women in Bangladesh face specific vulnerabilities: widowhood (since women are typically younger than their husbands and live longer), reduced economic autonomy and property rights, social isolation, and the accumulated weight of a lifetime spent in subordinate social positions. In a country where older women's status depends heavily on the presence and status of their husbands, widowhood can involve a catastrophic loss of social position as well as emotional bereavement.

The Chittagong Hill Tracts contain a significant population of indigenous elderly people from groups including the Chakma, Marma, Tripura, and others. These communities have experienced protracted conflict and cultural marginalization, and their elderly members carry the accumulated trauma of decades of displacement and violence alongside the normal burdens

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of aging. They face additional barriers to health care including language, distance, and the profound scarcity of services that characterizes the Hill Tracts.

Elderly people in Dhaka and other major cities face a different set of challenges. Rapid urbanization has produced a paradox of urban loneliness: older people living in close physical proximity to millions of others but profoundly isolated from meaningful social connection. The breakdown of traditional community bonds, the predominance of nuclear family structures, and the time pressures of urban working life mean that elderly urban dwellers may receive far less social support than older people in rural communities with stronger traditional social networks, despite the theoretical advantages of urban location in terms of access to health services.

168.3 Patterns of Eldercare in Bangladesh: Family, Community, and Institution

The traditional model of eldercare in Bangladesh is firmly embedded in the family, specifically in the extended family household. The expectation that adult children, particularly sons, will care for their parents in old age is deeply rooted in Bangladeshi cultural, religious, and social norms. Filial piety, understood both as a social duty and as a religious obligation, has historically provided a strong practical basis for the care of older adults within the family. Older parents typically live with one of their sons and his family, contribute to household life through childcare and domestic work while they are able, and receive care from the wider family network as their physical and mental capacities decline.

This model, while valuable in many respects, is under serious pressure. The economic forces driving rural-to-urban migration and international labor migration are progressively separating adult children from their elderly parents. The nuclear family, which cannot provide the flexible sharing of caregiving responsibilities that the extended family permits, is becoming more common in urban areas. The increasing participation of women in the workforce reduces their availability for informal caregiving. And the sheer intensity of caregiving required for people with dementia or other severe late-life conditions may exceed the capacity of families even when they are willing and present.

At the same time, the formal alternatives to family-based care are extremely limited in Bangladesh. There are very few state-run care homes for elderly people, and those that exist are generally of poor quality, severely underfunded, and concentrated in Dhaka. Private care homes are available for those who can afford them, but they are expensive and variable in quality. The concept of residential care for elderly people carries significant social stigma in Bangladesh: placing a parent in a care home is typically understood as a failure of filial duty and is a source of shame for the family. This stigma is reinforced by Islamic norms about family obligation, which regard the care of parents as a sacred duty that should not be delegated to strangers. The practical consequence is that elderly people with severe care needs who cannot be managed by their families may receive no care at all, or may receive care in conditions of profound neglect and deprivation.

The gap between the increasing burden of eldercare and the capacity of the existing social systems to provide it constitutes one of the most important structural challenges for Bangladesh's development over the coming decades. Addressing it requires not only the development of formal

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services but also a fundamental rethinking of social policy toward aging, including the development of income support for elderly people (who have typically had no access to formal pension systems), community-based support services that can supplement family care, and training programs for family caregivers that recognize the intensity of what they are being asked to do without providing any support.

168.4 The Legacy of Collective Trauma: Liberation War Veterans and Witnesses in Old Age

One of the most distinctive features of Bangladesh's aging population is the presence of a substantial cohort of people who witnessed or participated in the Liberation War of 1971 and who are now reaching old age carrying the psychological weight of that experience. The Liberation War involved extraordinary levels of violence: an estimated 300,000 to 3 million people were killed (the precise figures remain contested), hundreds of thousands of women were raped, entire communities were destroyed, and millions of people were displaced. The survivors of this violence have lived with its consequences for more than fifty years, and many are now in their 70s, 80s, and older.

The psychological literature on the long-term consequences of war trauma for aging survivors is substantial. Research on Holocaust survivors, on veterans of the Vietnam War, on survivors of the Khmer Rouge genocide in Cambodia, and on other populations of war survivors consistently shows that the psychological wounds of extreme violence can remain active across decades and that they interact with the normal vulnerabilities of aging in complex and often devastating ways. The recurrence or intensification of trauma symptoms in old age, known in the clinical literature as "late-onset stress symptomatology" or LOSS, is a well-documented phenomenon: older survivors of trauma who have managed to contain their symptoms through the demands and distractions of working and family life may find that retirement, the deaths of contemporaries, physical illness, and the quieter landscape of old age allow previously suppressed memories and emotions to surface with renewed and sometimes overwhelming intensity.

In Bangladesh, this phenomenon has received almost no systematic clinical or research attention. The generation of Liberation War survivors is aging rapidly, and without intervention, many of them will carry unaddressed trauma into the final years of their lives. The absence of a national mental health program for Liberation War survivors and veterans is a significant gap in the policy landscape that this textbook records as a matter of historical importance even where it cannot yet report on the programmatic response.

CHAPTER ONE HUNDRED AND SIXTY-NINE: THE NEUROBIOLOGY OF THE AGING BRAIN

169.1 Normal Brain Aging: What Changes and What Does Not

Understanding the neurobiology of the aging brain is essential for distinguishing normal cognitive and emotional changes associated with aging from the pathological changes that characterize dementia and other late-life neuropsychiatric conditions. This distinction is

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clinically important and is also philosophically and socially significant: the medicalization of normal aging is a real risk, and a clear understanding of what constitutes normal age-related change is a prerequisite for avoiding it.

The normal aging brain undergoes a series of structural and functional changes that begin, to a modest degree, in midlife and accelerate somewhat in later decades. In terms of structure, normal aging is associated with a modest reduction in brain volume, particularly in the prefrontal cortex and hippocampus, areas that are critical for executive function and memory. This volume reduction is partly attributable to neuronal atrophy (shrinkage of individual neurons) rather than simply to neuronal death, and it is also attributable to reductions in synaptic density and in the volume of white matter. Cerebral white matter, the network of myelinated axons that connects different brain regions, undergoes particularly significant age-related changes: white matter hyperintensities (areas of signal abnormality on MRI, reflecting microstructural changes in the white matter) increase in prevalence and volume with aging and are associated with the slowing of processing speed and with the dysexecutive features of normal aging.

At the cellular and molecular level, normal aging is associated with several important changes. There is a progressive accumulation of oxidative damage to neurons and to cellular machinery, reflecting the imbalance between the generation of reactive oxygen species in metabolically active neurons and the capacity of antioxidant defense systems. Mitochondrial function, which is critical for neuronal energy production, deteriorates with aging. Neuroinflammation, the activation of microglia (the brain's resident immune cells) and the release of pro-inflammatory cytokines, increases with aging and is thought to contribute to cognitive changes and to increase vulnerability to neurodegenerative conditions. And the clearance of abnormal proteins, including amyloid-beta and tau, by the glymphatic system (the brain's waste-clearance system, which is particularly active during sleep) becomes less efficient, contributing to the accumulation of these proteins that characterizes Alzheimer's disease.

Neurotransmitter systems also undergo important age-related changes. Dopaminergic systems, particularly the nigrostriatal and mesocortical pathways, show progressive decline with aging, contributing to changes in motor function, motivation, and reward processing. The cholinergic system, which is particularly important for memory and attention, declines with aging, and this decline is greatly accelerated in Alzheimer's disease. Serotonergic transmission also declines, which may contribute to the increased vulnerability to depression in older adults.

In terms of cognitive function, normal aging is associated with specific and predictable changes. Processing speed, the rate at which information is processed, declines progressively from the fourth decade onward. Working memory capacity, the ability to hold and manipulate information in mind, declines somewhat. The speed and reliability of word retrieval declines, producing the "tip of the tongue" phenomenon that becomes more common in older adults. Episodic memory, particularly the ability to encode and retrieve new information, declines, though the extent and clinical significance of this decline varies enormously among individuals.

Crucially, many cognitive functions are preserved in normal aging. Semantic memory (knowledge of facts and concepts) remains largely intact or may even improve with age.

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Procedural memory (skills and habits) is similarly well-preserved. Crystallized intelligence, reflecting accumulated knowledge and experience, remains stable or improves through the seventh decade in most people. Wisdom, the capacity to draw on experience to navigate complex situations and make sound judgments, is a genuine psychological construct that appears to increase rather than decrease with age in many people. A nuanced understanding of normal aging recognizes both the real changes that occur and the genuine capacities that are preserved or enhanced.

169.2 The Concept of Cognitive Reserve and Its Implications

One of the most important concepts in the neurobiology of aging and dementia is that of "cognitive reserve," a term coined by Yaakov Stern to refer to the brain's resilience in the face of age-related change and pathological insult. The cognitive reserve hypothesis holds that individuals differ in the efficiency with which they use neural networks and in the flexibility with which they can recruit alternative networks when their primary networks are damaged. Those with higher cognitive reserve can sustain a greater burden of neurodegenerative pathology before manifesting clinical symptoms.

Epidemiological evidence for cognitive reserve is robust. Education, the most studied proxy measure of cognitive reserve, is consistently associated with both a reduced incidence of clinically apparent dementia and with better cognitive outcomes in the face of equivalent brain pathology. Other factors associated with cognitive reserve include bilingualism, occupational complexity, social engagement, physical exercise, and intellectual activities throughout life. The implications are important: cognitive reserve is not fixed at birth but is built through life experience, which means that interventions at any stage of life that enrich experience and increase cognitive engagement may reduce the risk and delay the onset of dementia.

In Bangladesh, the implications of the cognitive reserve concept are double-edged. On one hand, the historically low levels of formal education, particularly in older women (who had very limited access to education in the mid-twentieth century), may reduce cognitive reserve and increase vulnerability to dementia in this cohort. On the other hand, the rich complexity of life experience, the multilingual environment of many Bangladeshis (who may speak standard Bangla, a regional dialect, and possibly Urdu or English), and the high levels of social engagement in traditional community structures may contribute to cognitive reserve in ways that are not captured by simple educational metrics. A more nuanced assessment of cognitive reserve in the Bangladeshi context requires research that has not yet been done at adequate scale.

169.3 Neuroinflammation and the Aging Brain: A Growing Research Frontier

The role of neuroinflammation in the aging brain and in late-life psychiatric conditions represents one of the most active and exciting frontiers of current neuroscience research, and it has important implications for both dementia and late-life depression. Research published in the period 2020 to 2025 has substantially advanced our understanding of the mechanisms through which chronic systemic inflammation, microglial activation, and the failure of brain immune homeostasis contribute to cognitive decline and to the neuropsychiatric manifestations of aging.

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The aging brain shows what has been termed "inflammaging," a state of low-grade chronic neuroinflammation driven by multiple intersecting mechanisms: the accumulation of cellular damage that activates innate immune responses, the progressive loss of the regulatory mechanisms that normally dampen inflammatory responses, and the increased permeability of the blood-brain barrier that allows peripheral inflammatory signals to penetrate the central nervous system. This inflammatory state appears to contribute both directly to the neurodegenerative processes of Alzheimer's disease and to the neuroimmune mechanisms of late-life depression.

In the context of late-life depression specifically, there is growing evidence that a substantial proportion of elderly patients have elevated markers of systemic inflammation, including C-reactive protein, interleukin-6, and tumor necrosis factor-alpha, and that this inflammatory subtype of depression may respond differently to standard antidepressant treatments than non-inflammatory depression. This is a line of research with potential clinical implications for treatment selection in geriatric depression, though it has not yet translated into routine clinical practice.

In Bangladesh, the burden of systemic inflammatory conditions in older adults is high. Hypertension, diabetes, chronic obstructive pulmonary disease, and chronic infections including tuberculosis are all associated with elevated systemic inflammation, and their high prevalence in the Bangladeshi elderly population may contribute to the elevated rates of both dementia and depression observed in this group. The nutritional vulnerabilities of older Bangladeshis, including protein-energy malnutrition (which affects a significant proportion of the rural elderly), may further compromise the capacity of both peripheral and central immune systems to maintain homeostasis.

169.4 Sleep and the Aging Brain: The Glymphatic System and Its Failures

Sleep architecture changes substantially with aging. Total sleep time typically decreases, slow-wave sleep (the deepest stage of non-REM sleep) decreases significantly, the ability to maintain consolidated sleep decreases, and early morning awakening becomes more common. These changes are clinically significant for several reasons.

First, the glymphatic system, which clears metabolic waste products including amyloid-beta and tau from the brain, is maximally active during slow-wave sleep. The age-related reduction in slow-wave sleep therefore impairs glymphatic clearance and may contribute to the accumulation of amyloid-beta and tau that characterizes Alzheimer's disease. This is one of the pathways through which sleep disturbance and dementia may be bidirectionally linked: poor sleep contributes to amyloid accumulation, and accumulating amyloid disrupts the sleep-wake cycle, creating a potentially vicious cycle.

Second, sleep disturbance in older adults is strongly associated with depression, anxiety, cognitive impairment, and reduced quality of life. Insomnia in older adults is the most common sleep disorder and represents both an independent condition requiring treatment and an important indicator of underlying psychiatric or medical pathology.

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Third, sleep-disordered breathing, particularly obstructive sleep apnea (OSA), increases in prevalence with aging and is associated with cognitive impairment, depression, cardiovascular disease, and metabolic disorders. OSA in older adults is frequently undiagnosed, particularly in settings without access to polysomnography. In Bangladesh, OSA is likely substantially under-recognized, and its contribution to cognitive impairment and depression in the elderly population has not been systematically studied.

CHAPTER ONE HUNDRED AND SEVENTY: EPIDEMIOLOGY OF MENTAL DISORDERS IN OLDER BANGLADESHI ADULTS

170.1 The Scale of the Problem: Prevalence Estimates

The epidemiological data on mental disorders in older adults in Bangladesh is more extensive than might be supposed, though it remains limited in scope and variable in quality. Multiple studies have been conducted using standardized instruments in community and clinical settings, and while their methodological heterogeneity makes direct comparison difficult, they tell a consistent story of very high prevalence and very low treatment coverage.

A major cross-sectional study conducted between October 2024 and March 2025, involving 1,544 older respondents from multiple geographical regions across Bangladesh, found high rates of depression, anxiety, insomnia, and loneliness among the geriatric population. This study represents the most recent and geographically comprehensive assessment available at the time of writing.

Earlier studies have documented similarly striking prevalence figures. Studies in rural Bangladesh found the prevalence of depression ranging from 36.9 to 45 percent among elderly individuals, while approximately 23 percent experienced suicidal thoughts. A comparative study in rural and urban Bangladesh using two-stage random sampling found that the prevalence of mild to severe depression was 52.5 percent of the elderly population surveyed. A study at an urban tertiary geriatric hospital in Dhaka found the prevalence of depression to be 81.7 percent, with 52.6 percent showing mild depression, 25.2 percent moderate depression, and 3.9 percent severe depression as measured by the Geriatric Depression Scale.

The variation across these figures reflects genuine differences in study populations, settings, and measurement instruments, as well as the distinction between community-based prevalence (which tends to be lower) and clinic-based prevalence among help-seekers (which tends to be higher). The community-based figures, ranging from 36 to 52 percent, are nevertheless extraordinarily high by any comparative standard, suggesting that depression is not merely common but is in some sense normative among elderly Bangladeshis in both rural and urban settings.

For dementia, the prevalence of dementia in Bangladesh was estimated at approximately 1.2 million cases (800 cases per 10,000 population) in 2022, with females at 2.8 times higher risk than males. Projections indicate that this will rise to approximately 1.4 million cases in 2025, to

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2.4 million cases in 2041, and to 3.4 million cases in 2051. The total number of dementia cases in Bangladesh in 2020 was estimated at about 1.1 million, and the study projects that this could be doubled by 2041 if not effectively intervened.

These figures represent a public health crisis of extraordinary dimensions. Bangladesh is facing a rapidly accelerating burden of dementia, without a national dementia strategy, without dedicated geriatric mental health services, without a trained specialist workforce, and without adequate community support for family caregivers. The scale of the challenge is comparable in its dimensions to the tuberculosis or maternal mortality crises that mobilized massive public health responses in earlier decades, but it is receiving a fraction of the policy and resource attention.

170.2 Risk Factors for Late-Life Mental Disorders in Bangladesh

Understanding the risk factors for mental disorders in elderly Bangladeshis is essential for the design of targeted prevention and treatment programs. The evidence base identifies several clusters of risk factors that are particularly important in the Bangladeshi context.

Physical health comorbidity is among the most powerful risk factors for late-life mental disorders. Stroke and cerebrovascular disease, which are highly prevalent in Bangladesh given the high rates of hypertension and smoking, are associated with very high rates of both depression and cognitive impairment. Post-stroke depression affects an estimated 30 to 50 percent of stroke survivors globally, and this figure is probably at least as high in Bangladesh. Diabetes, which affects a growing proportion of the elderly Bangladeshi population, is associated with elevated depression risk through multiple mechanisms including neuropathy, vascular disease, and the burdens of disease management. Chronic pain, which is extremely common in older adults with musculoskeletal conditions, is bidirectionally associated with depression and anxiety. And malnutrition, which remains prevalent among elderly Bangladeshis particularly in rural areas, impairs brain function, contributes to the inflammatory state discussed above, and is associated with accelerated cognitive decline.

Among elderly people with dementia in Bangladesh, more than half have one or more chronic conditions including hypertension, depression, and diabetes, and more than a third have poor nutritional status. This pattern of comorbidity reflects the extraordinary complexity of clinical management in this population and the inadequacy of approaches that address physical and mental health in isolation from each other.

Social risk factors are equally important. Widowhood, particularly for women, is strongly associated with depression in older adults. Living alone is associated with both depression and cognitive decline. Factors such as rural residency, living alone, illiteracy, and lack of religious practice were correlated with geriatric depression in Bangladesh, implying a lack of social support systems for the geriatric population. Social isolation and loneliness, which are increasingly recognized as major risk factors for both mental and physical health in older adults, are likely growing in Bangladesh as family structures change and community bonds erode.

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Economic insecurity is a pervasive risk factor for late-life mental disorders in Bangladesh. The vast majority of elderly Bangladeshis have no formal pension or retirement income and depend entirely on family support for their economic needs. When this family support is inadequate or absent, the resulting poverty and insecurity are powerful contributors to depression and anxiety. The concept of "economic old age," a state of destitution and dependency that has no culturally legitimated resources, is one of the most common but least discussed sources of late-life suffering in Bangladesh.

Geriatric psychiatric disorders are frequently under-diagnosed in Bangladesh due to a lack of awareness and a focus on physical health problems, while comorbid psychiatric conditions remain underdiagnosed. This under-diagnosis reflects barriers at multiple levels: among patients and families, who do not recognize or disclose mental symptoms; among health professionals, who lack training in geriatric mental health; and within the health system, which has no systematic approach to identifying and treating mental disorders in older adults.

170.3 The Treatment Gap in Geriatric Mental Health

The treatment gap in geriatric mental health in Bangladesh is even larger than the already-enormous treatment gap for mental disorders in the adult population generally. There are several layers to this gap.

The first layer is diagnostic: most older adults with mental disorders in Bangladesh have never received a diagnosis. Depression is attributed to physical illness, to the natural miseries of aging, or to appropriate sadness about bereavement or loss. Dementia is attributed to normal aging, to "second childhood," or in some cases to supernatural causes. Anxiety is understood through somatic idioms and managed through general medical care for the physical symptoms. Without a diagnosis, there is no pathway to treatment.

The second layer is structural: even when a diagnosis is made, the absence of geriatric mental health services means that there is nowhere to refer the patient. General psychiatry services in Bangladesh are not oriented toward or equipped for the specific needs of elderly patients. Medications may be poorly tolerated because of drug interactions and altered pharmacokinetics. Cognitive impairment may make standard psychotherapy inaccessible without adaptation. And the need for family involvement in care, which is universal in geriatric mental health, is not systematically supported.

The third layer is attitudinal: the cultural normalization of late-life suffering, both among elderly people themselves and among their families and health professionals, creates a profound resistance to help-seeking. The belief that it is natural to be sad and confused in old age, and that no treatment is available or appropriate, is a form of ageism with devastating clinical consequences.

CHAPTER ONE HUNDRED AND SEVENTY-ONE: LATE-LIFE DEPRESSION: CLINICAL FEATURES, ASSESSMENT, AND TREATMENT

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171.1 The Clinical Phenomenology of Depression in Older Adults: What Makes It Different

Late-life depression is not simply adult depression occurring in an older person. It has distinctive clinical features that reflect the neurobiological and psychosocial specificities of the aging brain and the aging social world. Understanding these features is essential for accurate recognition and for the design of effective treatment approaches.

The most important clinical feature that distinguishes depression in older adults from that in younger adults is the prominence of somatic and cognitive symptoms relative to the subjective experience of depressed mood. Many elderly depressed patients do not present with the complaint of feeling sad or depressed. Instead, they present with fatigue, loss of energy, poor appetite and weight loss, sleep disturbance, multiple somatic complaints (pain, weakness, gastrointestinal symptoms), and a general sense of bodily deterioration. They may deny feeling depressed when directly asked, not because they are concealing their emotional state but because they genuinely do not experience their suffering primarily in emotional terms. This presentation, sometimes called "masked depression" or "somatized depression," is particularly common in cultural contexts where the expression of emotional distress through somatic channels is normative, making it especially relevant in Bangladesh.

Cognitive symptoms are a particularly important and clinically challenging feature of late-life depression. Depressed older adults frequently present with prominent memory complaints, difficulties with concentration, and slowed thinking. This combination of features, often referred to as "pseudodementia" or "depressive pseudodementia," can closely mimic the early presentation of dementia and creates one of the most important and difficult differential diagnostic challenges in geriatric psychiatry. The key distinguishing features are: in depression, the cognitive impairment typically develops over weeks rather than months to years; the patient is typically distressed by their cognitive difficulties rather than unaware of them (as is often the case in early dementia); the impairment tends to be global rather than specifically affecting memory; and the cognitive symptoms typically resolve with effective treatment of the depression. However, this distinction is not always clean: depression and dementia frequently co-occur, and late-life depression is itself an independent risk factor for subsequent dementia, possibly because both conditions share neurobiological mechanisms including hippocampal damage, neuroinflammation, and HPA axis dysregulation.

In Bangladesh, the cognitive presentation of late-life depression is particularly likely to lead to diagnostic error, because the evaluation of elderly patients in general medical settings rarely includes a systematic assessment of mood and because the cognitive symptoms are more likely to be recognized (and attributed to dementia or normal aging) than the depressive ones. The clinician seeing an elderly woman who presents with multiple somatic complaints, poor appetite, and "forgetting things" should have late-life depression near the top of their differential diagnosis even in the absence of an explicitly depressive complaint.

Late-life depression has several subtypes that deserve specific clinical attention. The first is depression with melancholic features: severe loss of pleasure, morning worsening of mood, early morning awakening, marked psychomotor changes, and significant weight loss. Melancholic depression in older adults responds better to pharmacotherapy than to psychotherapy and may

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require higher antidepressant doses or augmentation strategies. The second is depression with psychotic features: the presence of delusions (typically involving themes of poverty, sinfulness, or bodily decay) or hallucinations alongside the depressive syndrome. Psychotic depression in elderly patients is a medical emergency that typically requires combined antidepressant and antipsychotic treatment, and it carries very high risks if untreated, including suicide and severe medical deterioration from refusal to eat or drink. The third is vascular depression, a construct referring to depression associated with cerebrovascular disease and white matter hyperintensities, which tends to present with more cognitive and executive dysfunction, more somatic features, and less prominent sadness, and which is associated with a poorer prognosis and a more attenuated response to standard antidepressant treatment.

171.2 The Assessment of Late-Life Depression in Bangladesh

The assessment of depression in elderly Bangladeshi patients requires systematic attention to several domains that may not be covered in a standard adult psychiatric assessment.

The history should explicitly assess the duration and character of mood change, distinguishing between transient grief reactions (which are expected responses to loss and do not require treatment beyond support) and sustained depressive episodes that represent pathological states. It should explore the history of previous depressive episodes, which are extremely common in late-life depression and predict the course of the current episode. It should assess the social context, including the quality of family support, economic circumstances, bereavement, and the presence of chronic stressors. It should systematically enquire about somatic symptoms, sleep, appetite, energy, and cognitive complaints. And it should explicitly address suicidal ideation, which is distressingly common in late-life depression in Bangladesh and which tends to be more severe and more likely to result in death when it occurs in older adults compared to younger ones.

The mental state examination should include assessment of psychomotor function, as slowing or agitation is frequently visible in late-life depression. It should include a cognitive screening assessment using a validated instrument, the most widely used being the Mini-Mental State Examination (MMSE), the Montreal Cognitive Assessment (MoCA), or the simplified Bengali-language cognitive screening instruments that have been developed for use in Bangladesh. It should assess for psychotic features including delusions and hallucinations.

The Geriatric Depression Scale (GDS), available in its full 30-item form and in shorter versions including the GDS-15 and GDS-5, is the most widely used standardized rating scale for depression in older adults. It was specifically designed for this population by Yesavage and colleagues and avoids physical symptoms of depression that might reflect physical illness rather than depression, making it more specific for depression in medically ill elderly patients. A validated Bangla translation of the GDS-15 is available and should be used in clinical assessments in Bangladesh. The psychometric properties of the short-form Geriatric Depression Scale have been studied and validated among elderly populations in Bangladesh.

171.3 Pharmacological Treatment of Late-Life Depression

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Pharmacological treatment of depression in older adults requires special considerations that reflect the altered physiology of the aging body and the polypharmacy that is typical in this age group.

The fundamental principle is to "start low and go slow" but to go to an adequate dose eventually. The aging body has reduced hepatic metabolism (reducing drug clearance), reduced renal clearance, altered body composition (increased fat, reduced lean mass and total body water, changing drug distribution), reduced albumin levels (affecting protein binding of drugs), and increased sensitivity of the brain to drug effects. These changes mean that elderly patients may experience drug effects and side effects at lower doses than younger patients, and that drugs accumulate more slowly but ultimately to higher levels.

Selective serotonin reuptake inhibitors (SSRIs) are the first-line pharmacological treatment for late-life depression, based on their relatively favorable tolerability profile in older adults compared to tricyclic antidepressants and monoamine oxidase inhibitors. Among the SSRIs, escitalopram and sertraline have the most favorable evidence base in older adults, with relatively fewer drug interactions and better tolerability. Citalopram is widely used but carries the complication of QTc prolongation at higher doses, which is particularly concerning in elderly patients who may have underlying cardiac disease. Fluoxetine is generally not first-line in elderly patients because of its very long half-life and the complex drug interactions of its active metabolite norfluoxetine.

In Bangladesh, the available SSRIs include sertraline, fluoxetine, escitalopram, and paroxetine. Sertraline is generally the preferred choice in elderly patients because of its relatively favorable pharmacokinetic profile, its good tolerability, and its reasonable cost. Starting at 25 mg and increasing to 50 mg after two to four weeks is a reasonable approach, with further increases to 100 mg if there is inadequate response. Paroxetine should generally be avoided in elderly patients because of its potent anticholinergic effects, which can worsen cognitive function, precipitate delirium, cause constipation and urinary retention, and contribute to falls.

Tricyclic antidepressants (TCAs), particularly amitriptyline and nortriptyline, have established antidepressant efficacy but are poorly tolerated in elderly patients because of their anticholinergic, antihistaminic, and cardiac effects. Amitriptyline is particularly dangerous in elderly patients and should essentially never be prescribed in this age group. Nortriptyline, which has fewer anticholinergic effects, remains in use in some settings for carefully selected elderly patients who have not responded to SSRIs, but it requires cardiac monitoring because of its arrhythmogenic potential.

Mirtazapine, which is available in Bangladesh, is a useful option in elderly depressed patients who have prominent insomnia or poor appetite, since it has sedating and appetite-stimulating properties that may address these comorbid symptoms. Its weight-gaining effects, while a concern in obese patients, may actually be beneficial in elderly patients who are underweight or have significant anorexia. It has a relatively favorable tolerability profile in older adults from a cardiovascular and anticholinergic perspective.

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The duration of treatment for late-life depression is at least as long as for adult depression: a minimum of six to twelve months after achieving remission is generally recommended, and indefinite maintenance treatment should be considered for patients who have had multiple episodes or who have other risk factors for relapse. The risk of relapse and recurrence in late-life depression is high, and premature discontinuation of treatment is a frequent cause of avoidable relapse.

Augmentation strategies for treatment-resistant late-life depression include the addition of an antipsychotic (particularly quetiapine, aripiprazole, or risperidone at low doses) to the antidepressant, the addition of lithium (which requires careful monitoring of levels and renal function in elderly patients), and in selected cases electroconvulsive therapy (ECT), which remains one of the most effective treatments for severe, treatment-resistant, or psychotic depression in older adults and which has a more favorable benefit-risk profile in many elderly patients than is commonly appreciated.

171.4 Psychological Treatments for Late-Life Depression

The evidence base for psychological treatments in late-life depression, while somewhat smaller than for adult depression, is convincing. Cognitive-behavioral therapy adapted for older adults (CBT-OA), which addresses the specific cognitive patterns and behavioral avoidances of late-life depression within an age-sensitive framework, has demonstrated effectiveness in multiple controlled trials. Problem-solving therapy, which targets the specific practical challenges and role transitions of old age and teaches structured problem-solving skills, has also shown good evidence and is particularly suitable for use by non-specialist workers because of its relative simplicity and its focus on current practical problems.

Interpersonal therapy (IPT) is particularly relevant for late-life depression because of its explicit focus on the interpersonal contexts of depression, including grief and bereavement, role transitions (such as retirement, widowhood, and physical disability), and interpersonal conflicts. Life review therapy and reminiscence therapy, approaches that encourage older adults to reflect on and integrate their life history, have a growing evidence base in late-life depression and may be particularly well-suited to the existential tasks of old age as described by Erikson.

In Bangladesh, the availability of evidence-based psychological therapies for older adults is currently negligible. The development of simplified, culturally adapted psychological interventions that can be delivered by trained community health workers, following the task-sharing model that has shown promise in other contexts, represents the most feasible path toward expanding psychological treatment access for depressed older Bangladeshis. Problem-solving therapy, with its relatively simple structure and its focus on practical issues, is probably the best candidate for this kind of adaptation and scale-up in the Bangladeshi context.

171.5 Late-Life Depression in Bangladesh: Specific Clinical and Cultural Challenges

The clinical management of late-life depression in Bangladesh confronts several specific challenges that do not arise, or arise in different forms, in other settings.

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The first challenge is recognition. As discussed above, depression in elderly Bangladeshis typically presents through somatic idioms, and the health care system is not set up to look for depression behind physical complaints. Primary care physicians and general practitioners, who are the first point of contact for most elderly Bangladeshis with health problems, have typically had no training in the recognition of depression in elderly patients, and their clinical workflow does not include systematic screening for depression.

The second challenge is the cultural framework for understanding late-life suffering. Families of elderly depressed patients may understand the depression as an appropriate response to the burdens of aging, as spiritual desolation reflecting insufficient religious practice, or as the supernatural consequence of past wrongdoings. These interpretations are not simply errors to be corrected; they are frameworks of meaning that need to be engaged with respectfully while the clinical reality of treatable depression is communicated clearly. The clinician who dismisses the family's spiritual interpretation is likely to lose the family's cooperation; the clinician who simply accepts the spiritual interpretation without advocating for effective treatment is likely to collude in the patient's continued suffering.

The third challenge is the interaction between depression, physical illness, and cognitive impairment in elderly patients. Many elderly Bangladeshis have multiple physical conditions that are themselves associated with depression, that produce symptoms that overlap with depression, and that significantly complicate the pharmacological management of depression because of drug interactions and contraindications. Navigating this complexity requires clinical sophistication that is rare in the existing workforce.

The fourth challenge is the engagement of the family as a therapeutic resource. Family-based interventions in which the family is educated about depression, taught to provide supportive responses rather than the dismissive or blaming responses that are often the default, and involved in the monitoring and management of treatment, can significantly improve outcomes. But engaging families effectively requires time, skill, and a clinical approach that is explicitly oriented toward systemic rather than individual-focused care.

CHAPTER ONE HUNDRED AND SEVENTY-TWO: LATE-LIFE ANXIETY, INSOMNIA, AND RELATED CONDITIONS

172.1 Anxiety in Older Adults: Clinical Features and Recognition

Anxiety in older adults is at least as common as depression, though it has received considerably less research and clinical attention. The lifetime prevalence of anxiety disorders in older adults is estimated at 15 to 20 percent, and anxiety frequently co-occurs with depression, with physical illness, and with early cognitive impairment. Among elderly people in urban Bangladesh, anxiety disorders represent a significant burden, though they remain substantially under-diagnosed in the community.

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The clinical presentation of anxiety in older adults shares the tendency toward somatic expression that characterizes late-life depression. Elderly anxious patients frequently present with palpitations, chest tightness, dizziness, headaches, fatigue, and gastrointestinal symptoms, and these physical symptoms may be interpreted as evidence of cardiac disease, vestibular disease, or other physical conditions, leading to extensive medical workup without appropriate recognition of the anxiety component.

Generalized anxiety disorder (GAD) is the most common anxiety disorder in older adults. In elderly Bangladeshis, worry tends to center on specific age-relevant themes: the health of the body, the economic security of the family, the fate of children and grandchildren, the meaning of increasing dependence, and the approach of death. These worries are not simply neurotic; many of them reflect real threats in an environment of genuine insecurity. The clinical challenge is to distinguish pathological worry, which is excessive, difficult to control, associated with significant distress and functional impairment, and amenable to treatment, from the rational concerns of a person in genuinely difficult circumstances.

Specific phobia is common in older adults, particularly phobias related to falling. Fear of falling, which develops in many older adults who have experienced a fall or who are aware of their increasing vulnerability to falls, represents a specific phobia with major clinical and functional consequences: the avoidance of activities that carry any perceived risk of falling progressively restricts mobility, social engagement, and quality of life. Managing fear of falling requires both attention to the phobic avoidance itself and practical interventions to reduce actual fall risk through exercise programs, home modification, and medication review.

The management of anxiety in elderly Bangladeshi patients involves several principles. Benzodiazepines, which are widely prescribed for anxiety in Bangladesh across all age groups, are particularly problematic in elderly patients: they increase the risk of falls, impair cognitive function, are associated with increased risk of motor vehicle accidents and other injuries, and carry significant risks of dependence and withdrawal. They should essentially never be first-line treatment for anxiety in elderly patients and should be used only for very short-term symptomatic relief in specific circumstances.

SSRIs and serotonin-norepinephrine reuptake inhibitors (SNRIs) are the pharmacological treatments of choice for anxiety in older adults, with the same pharmacokinetic considerations as in late-life depression. Pregabalin, which has anxiolytic properties with a different mechanism from benzodiazepines, is an alternative that may be considered in some patients. Buspirone, a non-benzodiazepine anxiolytic, is generally well-tolerated in older adults and may be useful in GAD, though its onset of action is slow and its efficacy, while established, is somewhat modest.

172.2 Insomnia in Older Adults: A Clinical and Public Health Priority

Insomnia, the subjective experience of inadequate or non-restorative sleep accompanied by daytime consequences, is extremely common in older adults. Prevalence estimates for clinically significant insomnia in older adults range from 20 to 40 percent in most studies, and its impact on quality of life, cognitive function, mood, and physical health is substantial.

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In Bangladesh, insomnia in older adults is extremely common and extremely poorly managed. Benzodiazepine and related "Z-drug" (zopiclone, zolpidem) prescribing for insomnia in elderly patients is widespread, reflecting the absence of training in behavioral approaches to insomnia management and the pressure of clinical encounters in which the patient's complaint of poor sleep demands an immediate pharmacological response. This prescribing practice, while understandable in its context, is clinically hazardous: sleep medications in elderly patients increase fall risk, worsen cognitive function, produce tolerance and dependence, and may paradoxically worsen sleep architecture over time.

Cognitive-behavioral therapy for insomnia (CBT-I) is now established as the most effective treatment for chronic insomnia in all age groups, including older adults, and is specifically recommended as the first-line treatment in clinical guidelines from the American Academy of Sleep Medicine, the European Sleep Research Society, and the British Association for Psychopharmacology. CBT-I addresses the cognitive and behavioral factors that maintain chronic insomnia, including excessive time in bed, conditioned arousal to the sleeping environment, dysfunctional beliefs about sleep, and the physiological and psychological consequences of sleep restriction and daytime napping. It is effective, durable (unlike medications, its benefits persist after the course of treatment is completed), and has no adverse effects. The development of culturally adapted and simplified versions of CBT-I suitable for delivery in Bangladeshi primary care settings represents an important clinical priority that has not yet been realized.

Sleep hygiene education, which is a simpler and less intensive intervention than full CBT-I, provides a basic foundation for sleep improvement and can be delivered by any trained health worker. It covers the importance of regular sleep and wake times, the avoidance of stimulants (tea, coffee, tobacco) before sleep, the creation of a sleep-conducive environment, the avoidance of excessive time in bed when not sleepy, and the reduction of screen time before sleep. While sleep hygiene education alone is insufficient for established insomnia, it is an appropriate component of broader management.

CHAPTER ONE HUNDRED AND SEVENTY-THREE: DEMENTIA: CLASSIFICATION, EPIDEMIOLOGY, AND NEUROBIOLOGY

173.1 Defining and Classifying Dementia: The ICD-11 Framework

Dementia is the term most widely used clinically to refer to the syndrome of progressive cognitive decline severe enough to impair daily function, but the formal nosological vocabulary has been evolving. The ICD-11, adopted by Bangladesh in its gradual transition from ICD-10, retains the term "dementia" as an overarching category but organizes it differently from its predecessor. The ICD-11 defines dementia as a syndrome due to disease of the brain, usually of a chronic or progressive nature, in which there is disturbance of multiple higher cortical functions including memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgment. The disturbance is sufficiently severe to impair the person's capacity to perform everyday activities.

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The ICD-11 specifies multiple etiology-based subtypes, reflecting the growing understanding of the distinct pathological mechanisms underlying different forms of dementia. The major subtypes, which are discussed individually below, include dementia due to Alzheimer's disease (the most common globally), vascular dementia (particularly important in Bangladesh given the high prevalence of stroke risk factors), dementia due to Lewy body disease, dementia in Parkinson's disease, frontotemporal dementia, and dementia due to other specified and unspecified conditions.

The ICD-11 also introduces the category of "mild neurocognitive disorder," which corresponds roughly to what has been called "mild cognitive impairment" (MCI) in the research literature and in DSM-5. This is a state of objective cognitive decline that exceeds what would be expected for age and education level but does not impair daily functioning sufficiently to qualify as dementia. MCI is clinically important because a substantial proportion of people with MCI, particularly those with the amnestic subtype (primarily affecting memory), progress to Alzheimer's disease dementia. Identifying and managing people with MCI represents an important clinical opportunity for early intervention.

173.2 Alzheimer's Disease: Pathobiology and Genetics

Alzheimer's disease (AD) is the most common cause of dementia globally, accounting for approximately 60 to 70 percent of cases. Its pathological hallmarks, first described by Alois Alzheimer in 1906 in a case report of a 51-year-old woman, are the extracellular deposition of amyloid-beta (Abeta) plaques and the intraneuronal accumulation of hyperphosphorylated tau protein in neurofibrillary tangles. These pathological changes, together with synapse loss, neuroinflammation, and progressive neuronal death, result in the progressive cognitive decline that characterizes the clinical syndrome.

The amyloid cascade hypothesis, first proposed by John Hardy and David Allsop in 1991, has been the dominant theoretical framework for AD research for more than three decades. It holds that the abnormal production or impaired clearance of amyloid-beta (particularly the aggregation-prone Abeta-42 isoform) is the initiating event in AD, and that the subsequent cascade of tau hyperphosphorylation, neuroinflammation, synaptic loss, and neuronal death follows from it. This hypothesis has driven an enormous research program and, crucially, the development of several anti-amyloid immunotherapies that have recently moved from the research pipeline to clinical use.

However, the amyloid cascade hypothesis has also been controversial. The repeated failure of anti-amyloid drugs in clinical trials for more than two decades, the discovery that amyloid deposition begins decades before clinical symptoms, the observation that some people with substantial amyloid deposits never develop dementia, and the growing evidence that tau pathology correlates better with cognitive decline than amyloid does have all led to significant modifications of the hypothesis and to growing interest in alternative or complementary pathways including neuroinflammation, mitochondrial dysfunction, synaptic failure, and the role of the glymphatic system.

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The most recent development in AD therapeutics, and one of the most significant in the history of the field, is the regulatory approval and clinical rollout of anti-amyloid monoclonal antibodies. Lecanemab (Leqembi), approved by the FDA in 2023, and donanemab, approved in 2024, represent the first disease-modifying treatments for AD ever to reach clinical practice. Both are antibodies that target amyloid-beta and have demonstrated in randomized controlled trials that they slow the rate of cognitive decline in early AD by approximately 25 to 35 percent relative to placebo. This is a genuine and historically significant advance, but it is also a modest one: the treatments slow decline rather than halting it, their benefits are clearest in the earliest stages of the disease (particularly the MCI stage), and they carry significant risks of amyloid-related imaging abnormalities (ARIA), a form of brain edema and hemorrhage that requires MRI monitoring.

For Bangladesh, the practical implications of anti-amyloid immunotherapy are essentially zero in the near to medium term. These drugs cost tens of thousands of US dollars per year of treatment, require sophisticated diagnostic infrastructure including amyloid PET scanning or CSF biomarkers for diagnostic confirmation and MRI for safety monitoring, and are available only in high-income countries with specialized neurology and neurosurgery services. The gap between the treatment breakthroughs of biomedical research and the clinical realities of a country like Bangladesh could not be more starkly illustrated.

The genetics of AD are complex. Fewer than 5 percent of cases are early-onset (before age 65) and are caused by highly penetrant autosomal dominant mutations in three genes: APP (encoding amyloid precursor protein), PSEN1 (presenilin 1), and PSEN2 (presenilin 2). The great majority of cases are late-onset and are influenced by a complex combination of common genetic variants of small individual effect. The most important single genetic risk factor for late-onset AD is the APOE epsilon-4 allele: one copy of this allele confers approximately a threefold increase in risk, while two copies confer approximately a twelvefold increase. APOE epsilon-4 is common in the general population, with a frequency that varies across ethnic groups; its frequency in the Bangladeshi population has not been extensively studied.

173.3 Vascular Dementia and the Bangladesh Burden

Vascular dementia (VaD) is the second most common cause of dementia globally and may be proportionally more common than Alzheimer's disease in Bangladesh and other South Asian countries, given the very high prevalence of cerebrovascular disease risk factors in this population. VaD results from cerebrovascular disease, including large vessel disease (stroke-related dementia), small vessel disease (subcortical ischemic vascular dementia), or a combination of both. It shares many clinical features with AD but has a somewhat different clinical profile: onset may be more abrupt (particularly when associated with large vessel strokes), progression may be stepwise rather than gradual, and the cognitive profile tends to show more prominent executive dysfunction and attention impairment relative to the memory impairment that dominates early AD.

The risk factors for VaD are the classic vascular risk factors: hypertension (the most important and potentially the most modifiable), diabetes, dyslipidemia, smoking, atrial fibrillation, obesity, and physical inactivity. All of these risk factors are highly prevalent in Bangladesh.

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Hypertension, in particular, has extremely high prevalence among middle-aged and elderly Bangladeshis, and awareness, treatment, and control rates are all low. The relationship between hypertension in midlife and dementia in late life is well established: people with hypertension in their 40s and 50s have significantly elevated risks of both AD and VaD in their 70s and 80s. This means that the prevention of dementia in Bangladesh requires action at the level of hypertension control in midlife, well before dementia symptoms appear.

Mixed dementia, in which the pathological features of both AD and VaD are present, is extremely common in elderly patients, particularly those over 80 years of age. The increasing recognition that most old-old patients with dementia have both amyloid plaques and cerebrovascular pathology has led to a reconceptualization of these conditions as frequently co-occurring contributors to cognitive decline rather than as mutually exclusive alternatives.

173.4 Lewy Body Disease and Frontotemporal Dementia

Dementia with Lewy bodies (DLB) is the third most common neurodegenerative dementia, accounting for approximately 10 to 15 percent of cases. It is characterized by progressive cognitive decline with prominent features of fluctuating cognition (episodic confusion interspersed with relative clarity), recurrent visual hallucinations (typically well-formed, detailed, and persistent), and parkinsonism (slowness, rigidity, and tremor). REM sleep behavior disorder (RBD), in which the person physically enacts the content of their dreams during REM sleep, is a prodromal feature that may precede the cognitive symptoms by years or decades.

DLB is clinically important partly because of its specific treatment implications. Antipsychotic medications, which are frequently prescribed to manage behavioral and psychotic symptoms in dementia, can cause severe, life-threatening neuroleptic sensitivity reactions in patients with DLB, with marked worsening of parkinsonism, sedation, and autonomic instability. Conventional antipsychotics (such as haloperidol) carry particular risk, and atypical antipsychotics should be used with extreme caution if at all in patients with known or suspected DLB. The recognition of DLB through careful clinical assessment of its core features is therefore not merely of academic interest but has direct and potentially life-saving treatment implications.

Frontotemporal dementia (FTD) is a group of neurodegenerative conditions characterized by progressive degeneration of the frontal and temporal lobes, producing prominent changes in personality, behavior, and language rather than the memory impairment that dominates early AD. The behavioral variant (bvFTD) presents with personality change, social disinhibition, loss of empathy, perseverative behaviors, and dietary changes (often a preference for sweet foods), rather than memory loss. FTD tends to occur at a younger age than AD (peak onset in the sixth decade) and may therefore present to psychiatry before neurology, as the personality and behavioral changes are often interpreted initially as psychiatric illness.

173.5 Delirium versus Dementia: The Most Critical Differential

The distinction between delirium and dementia is one of the most important and most frequently missed diagnostic challenges in geriatric psychiatry. Both conditions present with cognitive impairment in elderly patients, and they frequently co-occur, since dementia is the single most

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important risk factor for delirium. However, they differ fundamentally in their pathophysiology, clinical course, and management, and the consequences of missing delirium in a cognitively impaired elderly patient are serious.

Delirium is characterized by an acute onset (typically over hours to days), a fluctuating course (the patient's level of consciousness and cognitive function wax and wane over the course of hours), and impaired attention (the defining feature of delirium is the inability to sustain, focus, and shift attention normally). Dementia, by contrast, has a typically gradual onset, a relatively stable or slowly progressive course, and reasonably preserved attention in its early stages, particularly in the morning. In delirium, the level of consciousness is typically reduced (hypoactive delirium) or elevated (hyperactive delirium), while in uncomplicated dementia consciousness is typically normal.

The clinical importance of this distinction is that delirium always has an underlying medical cause that requires urgent identification and treatment. Common causes of delirium in elderly patients include infections (urinary tract infections and pneumonia are the most common), metabolic disturbances (hyponatremia, hypoglycemia, hepatic encephalopathy), medication toxicity (anticholinergic drugs, opioids, benzodiazepines, and many others), dehydration, pain, urinary retention, constipation, and acute medical events including myocardial infarction and subdural hematoma. Treating the delirium without identifying and addressing its underlying cause is inadequate and potentially dangerous.

CHAPTER ONE HUNDRED AND SEVENTY-FOUR: ALZHEIMER'S DISEASE AND VASCULAR DEMENTIA IN BANGLADESH: CLINICAL REALITIES AND CONTEXTUAL CHALLENGES

174.1 The Clinical Presentation of Dementia in Bangladesh

The clinical presentation of dementia in Bangladesh is shaped by both the underlying neuropathology and the cultural, linguistic, and social context in which it manifests. Several features deserve particular attention for the clinician practicing in this setting.

Dementia in Bangladesh is typically recognized late. By the time most families bring an elderly relative to medical attention for cognitive symptoms, the disease is already at a moderate or severe stage, with functional impairment sufficiently severe to create significant management challenges. This late recognition reflects several factors: the normalization of cognitive decline as part of normal aging ("she is old, so she has become forgetful" or "he is in his second childhood"), the absence of systematic cognitive screening in primary care, the cultural hesitancy to attribute cognitive change to a brain disease rather than to spiritual or social causes, and the limited access to medical care for elderly people in rural areas.

The behavioral and psychological symptoms of dementia (BPSD), which include agitation, aggression, wandering, delusions, hallucinations, depression, apathy, and sleep disturbance, are typically the presenting complaints that bring families to medical attention rather than the

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cognitive symptoms themselves. A family may manage quietly for years with an elderly relative who is forgetful and functionally impaired, but when the same person begins striking family members, shouting at night, or wandering out of the house and getting lost, the behavior becomes unmanageable and medical help is sought. This means that the clinical presentation at first contact is often dominated by behavioral symptoms rather than by cognitive assessment.

Among elderly individuals with dementia in Bangladesh, almost all reported having sought healthcare in the past six months, but they had more frequently visited drug sellers than qualified doctors, reflecting the patterns of informal care-seeking that characterize the health behavior of this population. This finding reflects the limited access to qualified medical care, the cost of formal health consultations, and the habitual use of informal providers.

The cultural interpretation of dementia symptoms in Bangladesh is complex and varied. At the level of formal religious understanding, dementia is often conceptualized as a physical illness that reduces the patient's accountability before God (since Islamic theology holds that mental competence is a prerequisite for religious obligation, a person who lacks it is not held responsible for the performance of prayers or the avoidance of prohibited behaviors). This interpretation can be compassionate and can facilitate acceptance of the patient's changed behavior within the family. At the level of folk cosmology, some behaviors associated with dementia, particularly the visual hallucinations of DLB and the confusional states of delirium, may be interpreted as evidence of spirit possession or supernatural influence.

174.2 The Demography of Dementia in Bangladesh: Who Is Most at Risk?

The odds of dementia in Bangladesh were higher in people aged 70 and above compared to those under 70, in females compared to males, and in those with no education compared to those with education. Malnutrition significantly increased the odds of dementia, with an adjusted odds ratio of approximately 5.9.

These risk factor associations have important implications for public health. The elevated risk in uneducated elderly women is not simply a biological given; it reflects the historical exclusion of women from education in Bangladesh, the chronic nutritional neglect of women throughout their lives in a social context where men and boys are prioritized in food allocation, and the limited cognitive stimulation available to women who have spent their entire lives in domestic roles with restricted social and intellectual engagement. Addressing these underlying social determinants is not only a matter of justice but is also, from a long-term perspective, one of the most important dementia prevention strategies available.

The specific risk factor of malnutrition deserves particular attention. Protein-energy malnutrition, vitamin B12 deficiency, vitamin D deficiency, and folate deficiency are all common in elderly Bangladeshis and are all associated with cognitive impairment. Vitamin B12 deficiency is particularly important because it is a potentially reversible cause of cognitive impairment: elderly Bangladeshis are at risk of B12 deficiency both because of dietary patterns (many elderly people eat little meat and fish, the richest dietary sources of B12) and because of the age-related reduction in gastric acid production that impairs B12 absorption. A systematic

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assessment of nutritional status, including measurement of B12 and folate levels, should be a routine component of the evaluation of any elderly patient presenting with cognitive concerns.

174.3 The Family Caregiver in the Context of Dementia in Bangladesh

The care of people with dementia in Bangladesh falls almost entirely on family members, and the burden this places on caregivers is one of the most important and least addressed public health issues in the country. Understanding the experience of family caregivers of people with dementia in Bangladesh requires attention to both the objective burden of caregiving and the subjective experience of caregivers.

The objective burden of dementia caregiving is enormous. Moderate to severe dementia requires round-the-clock supervision because of the risks of wandering, falls, fire hazards, and other safety concerns. Personal care (bathing, dressing, toileting) requires intimate physical assistance that may be profoundly challenging, both physically and emotionally. The behavioral and psychological symptoms of dementia, particularly agitation, aggression, and nighttime disturbance, are physically and emotionally exhausting for family members who are often sleep-deprived for months or years. The financial costs of caregiving include both the direct costs of medications and medical care and the indirect costs of time away from employment.

The subjective burden of caregiving includes the grief of watching a loved one progressively lose themselves, the guilt and frustration generated by the behavioral symptoms of dementia, the social isolation that results from the practical demands of caregiving, the loss of reciprocity in relationships that have been fundamentally asymmetric for many years, and in some cases the physical health consequences of chronic stress and sleep deprivation in the caregiver themselves.

Research on the mental health of dementia caregivers in Bangladesh specifically is limited, but the global literature consistently shows that family caregivers of people with dementia have very high rates of depression and anxiety, reduced physical health, and diminished quality of life. In a cultural context where the acceptance of the caregiver role is normative and the expression of difficulty or distress may be understood as a failure of loyalty, the identification and support of caregiver distress is particularly challenging.

Support for family caregivers of people with dementia should be understood as a core clinical responsibility, not an optional add-on. Psychoeducation about dementia (what it is, what to expect, how to manage specific behavioral symptoms) can dramatically reduce caregiver burden and improve their ability to provide care. Carer support groups, where available, provide validation, practical problem-solving support, and the powerful experience of shared understanding. Respite services, where a trained worker cares for the person with dementia for a period each day or week to allow the family caregiver a break, represent an important practical intervention that is almost entirely absent in Bangladesh.

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CHAPTER ONE HUNDRED AND SEVENTY-FIVE: ASSESSMENT AND DIAGNOSIS OF DEMENTIA IN CLINICAL PRACTICE

175.1 The Clinical Assessment of Cognitive Impairment: A Structured Approach

The clinical assessment of a patient with suspected dementia requires a systematic approach that encompasses several distinct components: the history from the patient and an informant, the cognitive examination, the physical examination including neurological assessment, and selected investigations.

The history from the patient is valuable but has important limitations in dementia assessment, because the patient's awareness of their cognitive difficulties (insight) is often reduced, particularly in AD where the brain regions supporting self-monitoring are among those most severely affected. The patient's account should still be sought respectfully, but it needs to be supplemented, and in cases of severe impairment essentially replaced, by the informant history.

The informant history, typically obtained from a family member or caregiver who knows the patient well and has observed them over time, is the most important single component of the dementia assessment. It should address the onset of cognitive changes (gradual or sudden), the pattern of progression (slow and insidious, stepwise, or fluctuating), the specific domains affected (memory, language, navigation, executive function, visual perception, personality and behavior), the functional consequences (what activities the patient can and cannot perform that they could previously), the behavioral and psychological symptoms present (agitation, depression, suspicion, hallucinations, sleep disturbance, changes in eating behavior), and the patient's awareness of their difficulties.

The Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE), which asks an informant to compare the patient's current cognitive function with how it was 10 years ago, is a useful standardized instrument for obtaining this information. It has been used in research settings in Bangladesh, though validated Bangla translations require further work.

The cognitive examination is the core of the clinical assessment. The Mini-Mental State Examination (MMSE) is the most widely used brief cognitive assessment instrument globally and has been used extensively in research and some clinical settings in Bangladesh. It assesses orientation, registration, attention and calculation, recall, language, and constructional praxis, with a maximum score of 30. A score of 24 or below is conventionally used as a cutoff for cognitive impairment, though this threshold has significant limitations: it is sensitive to education level (uneducated individuals may score below 24 without having dementia) and may fail to detect early dementia in educated individuals who score above 24 despite genuine impairment.

The Montreal Cognitive Assessment (MoCA) is a more sensitive instrument that was specifically designed to detect mild cognitive impairment. It assesses visuospatial and executive function more thoroughly than the MMSE and includes a more sensitive memory task. It is available in a Bangla-language version, though the norms for the Bangladeshi population, and particularly for illiterate or low-literacy individuals, are not well established.

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For a population in which literacy is variable, non-verbal cognitive tests are important. The CDT (Clock Drawing Test) is a simple, valid, and culturally accessible test of visuospatial function, constructional praxis, and executive function that does not require literacy and can be administered in any clinical setting. The patient is asked to draw a clock, put in all the numbers, and set the hands to 10 past 11 (or another specified time). Specific errors (number placement errors, conceptual errors in representing the clock face, inability to set the hands correctly) provide clinically meaningful information about the nature and severity of cognitive impairment.

175.2 The Physical Examination and Investigation Protocol

The physical examination in the assessment of dementia serves several purposes: to identify potentially treatable causes of cognitive impairment, to identify risk factors for vascular disease, to assess functional capacity, and to identify the physical complications of severe dementia.

The neurological examination should assess for focal neurological signs (which raise the possibility of vascular or other structural causes of dementia), for the extrapyramidal features of DLB and Parkinson's disease dementia (bradykinesia, rigidity, resting tremor, postural instability), for primitive reflexes (grasp reflex, palmomental reflex, and snout reflex, which are released in frontal lobe disease), and for gait disturbance. Normal pressure hydrocephalus (NPH), a potentially reversible cause of dementia, has a classic triad of dementia, gait disturbance (described as a "magnetic" gait), and urinary incontinence, and should be considered when this triad is present.

At the primary care level in Bangladesh, the investigation protocol for dementia should include blood glucose, full blood count, thyroid function tests (hypothyroidism is an important and treatable cause of cognitive impairment), renal function, liver function, and serum B12 and folate levels. HIV testing should be offered where relevant, given that HIV-associated neurocognitive disorder is a recognized and increasingly common cause of cognitive impairment. Syphilis serology should be considered in relevant clinical contexts, since neurosyphilis remains a cause of dementia in settings where syphilis is not well controlled.

Brain imaging is important in the dementia workup, primarily to exclude structural causes of cognitive impairment including subdural hematoma, normal pressure hydrocephalus, and brain tumor, all of which are treatable and potentially reversible. CT scanning is more widely available in Bangladesh than MRI and is adequate for identifying these structural causes. MRI provides more detailed information about white matter changes (supporting a diagnosis of vascular dementia), hippocampal atrophy (supporting a diagnosis of AD), and specific patterns of cortical atrophy that suggest particular dementia subtypes.

175.3 Cultural Considerations in Cognitive Assessment in Bangladesh

The assessment of cognitive function in elderly Bangladeshis is complicated by several cultural factors that can create genuine difficulties in interpretation.

Educational background has a profound effect on performance on standardized cognitive tests. Elderly Bangladeshis who had little or no formal education perform consistently lower on

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instruments like the MMSE than those with formal education, and the conventional cutoff scores derived from Western educated populations are not appropriate for illiterate or low-literacy Bangladeshis. The development and validation of education-adjusted norms for cognitive assessment instruments in the Bangladeshi population is an important research priority that has not yet been adequately addressed.

Language is also an important consideration. The assessment should ideally be conducted in the patient's primary language or dialect, which may be a regional variant of Bangla that differs significantly from standard Bangla, or in some cases a language other than Bangla (Chakma, Marma, or other indigenous languages in the Hill Tracts; Sylheti dialect in Sylhet; various dialects in Chittagong). The use of an interpreter introduces complexities around the precise communication of cognitive test instructions that can affect performance.

Cultural calibration of specific test items is a further challenge. Orientation to time and date is assessed on the MMSE, but elderly Bangladeshis who live outside the formal calendar may not regularly track the precise date. Object naming is culture-specific: naming common objects in a standardized test assumes familiarity with the objects depicted. Constructional tasks may be unfamiliar to people with limited formal education. A thoughtful assessor adapts the assessment to the patient's cultural and educational background, using culturally familiar stimuli and interpreting results in the context of the patient's background rather than against population norms derived from populations with very different educational experiences.

CHAPTER ONE HUNDRED AND SEVENTY-SIX: MANAGEMENT OF DEMENTIA: PHARMACOLOGICAL AND NON-PHARMACOLOGICAL APPROACHES

176.1 Pharmacological Treatment of Alzheimer's Disease: What Is Available and What Works

The pharmacological treatment of Alzheimer's disease has historically been limited to two classes of drugs that provide modest symptomatic benefit without modifying the underlying disease process: acetylcholinesterase inhibitors (AChEIs) and memantine. The recent approval of anti-amyloid monoclonal antibodies represents a new class of disease-modifying treatment, but as discussed above, these are not accessible in Bangladesh in the foreseeable future. The focus of this section is therefore on the symptomatic treatments that are available.

Acetylcholinesterase inhibitors work by inhibiting the enzyme that breaks down acetylcholine in the synapse, thereby increasing the availability of this neurotransmitter in circuits (particularly hippocampal and cortical circuits) that are critically depleted in AD. The three AChEIs approved for use in AD are donepezil, rivastigmine, and galantamine. Of these, donepezil is the most widely used globally because of its once-daily dosing and its generally favorable tolerability profile. It is licensed for mild to moderate and (in higher doses) severe AD. Rivastigmine is available in both oral and transdermal patch formulations; the patch is particularly useful in patients with gastrointestinal side effects from oral administration. Galantamine is used less widely.

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The evidence base for AChEIs shows that they produce modest but statistically significant improvements in cognitive function, global function, and activities of daily living compared to placebo over 6 to 12 months in people with mild to moderate AD. They do not halt or reverse progression; they shift the trajectory of decline modestly in a favorable direction. The magnitude of benefit is clinically meaningful for some patients but modest at the group level. Their side effect profile is dominated by cholinergic effects: nausea, vomiting, diarrhea, appetite loss, and weight loss are the most common. These may be particularly concerning in elderly Bangladeshi patients who already have nutritional vulnerabilities.

In Bangladesh, donepezil is available but expensive, and its cost is a significant barrier to access for most elderly patients and their families. The absence of any national drug subsidy program for dementia medications means that the out-of-pocket cost falls entirely on the family, and this cost, sustained over years, can be catastrophic for households of modest means.

Memantine is an NMDA receptor antagonist that works through a different mechanism from the AChEIs and is licensed for moderate to severe AD. It can be used alone or in combination with an AChEI, and there is evidence that the combination produces additional benefit over either agent alone in moderate to severe disease. Memantine is generally well tolerated in older adults and has a more favorable side effect profile than the AChEIs, making it particularly useful in patients who cannot tolerate cholinergic side effects.

176.2 Management of Behavioral and Psychological Symptoms of Dementia

The behavioral and psychological symptoms of dementia (BPSD) are extremely common and represent one of the most challenging aspects of dementia management. They include agitation and aggression, psychosis (delusions and hallucinations), depression, anxiety, apathy, sleep disturbance, sexually inappropriate behavior, and a range of other behavioral disturbances. BPSD are the primary source of caregiver distress and are the most common reason for crisis admission and for institutionalization of people with dementia.

The management of BPSD should always begin with non-pharmacological approaches. This is not simply because of the risks of pharmacological approaches (though these risks are real and significant), but because BPSD are often responses to environmental, social, and unmet physical needs rather than direct manifestations of the neurodegeneration itself. A person with dementia who is agitated may be in pain, may be frightened by an unfamiliar environment, may be responding to a caregiver's stress or frustration, or may have an unmet need for social contact or meaningful activity. Identifying and addressing these triggers is often more effective and always safer than immediately reaching for an antipsychotic.

Non-pharmacological approaches to BPSD include: environmental modifications (reducing noise and overstimulation, establishing clear routines, using good lighting, providing a safe space for walking and movement); communication approaches (speaking slowly and calmly, using simple sentences, validating the person's emotional experience rather than correcting factual errors, using the person's name and maintaining eye contact); activity-based approaches (providing meaningful, enjoyable activities appropriate to the person's cognitive level, using

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music therapy, reminiscence, and sensory stimulation); and caregiver training in specific behavioral management strategies.

Pharmacological treatment of BPSD carries significant risks and should be used only when non-pharmacological approaches have been tried and found insufficient, and when the severity of symptoms poses a genuine risk to the patient or caregiver. Antipsychotic medications are the most commonly used pharmacological treatments for agitation and psychosis in dementia, but they are associated with a significant increase in mortality in elderly patients with dementia, primarily through cardiovascular events and aspiration pneumonia. This risk has led to regulatory warnings in many countries about the use of antipsychotics in elderly patients with dementia, and it should be taken seriously in clinical practice in Bangladesh, where these drugs are sometimes prescribed casually.

When pharmacological treatment of BPSD is necessary, low-dose atypical antipsychotics (quetiapine, risperidone, or olanzapine) are preferred over conventional antipsychotics. The lowest effective dose should be used, the indication should be clearly documented, the response should be regularly reviewed, and the drug should be discontinued as soon as it is no longer necessary. Haloperidol and chlorpromazine, which are more widely available in Bangladesh than atypical antipsychotics, should be avoided if possible in elderly patients with dementia because of their potent extrapyramidal side effects and anticholinergic effects.

176.3 Non-Pharmacological Interventions for Dementia: The Evidence Base

The non-pharmacological management of dementia has developed a growing and encouraging evidence base over the past decade. A systematic review published in 2024 in a leading dementia journal identified several categories of intervention with robust evidence for benefit in specific domains.

Cognitive stimulation therapy (CST), a structured group-based intervention that uses mentally stimulating activities to engage cognitive function, has consistently demonstrated benefits in cognitive function and quality of life in people with mild to moderate dementia. It is one of the few non-pharmacological interventions with evidence comparable to that of AChEIs for cognitive outcomes, and it has the additional advantages of low cost, no side effects, and social benefits from group participation. CST has been successfully adapted for low-resource settings and could potentially be implemented in Bangladesh through community health worker training.

Physical exercise has significant evidence for both prevention and symptomatic management of dementia. A meta-analysis published in 2024 in a major neurology journal found that aerobic exercise reduces rates of cognitive decline and functional loss in people with mild to moderate dementia, and that the mechanisms appear to involve both the promotion of BDNF (brain-derived neurotrophic factor) and the reduction of vascular risk factors. Walking programs, which require minimal equipment and can be organized within community settings, represent the most feasible exercise intervention for elderly Bangladeshis.

Music therapy exploits the relative preservation of musical memory and emotional responsiveness to music in Alzheimer's disease, even at stages when other cognitive functions are

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severely impaired. It has been shown to reduce agitation, depression, and anxiety in people with dementia, and it is a culturally accessible and low-cost intervention that could be incorporated into dementia care in Bangladesh using locally familiar music.

Reminiscence therapy, which uses photographs, music, objects, and conversation about past experiences to stimulate memory and promote wellbeing, is particularly suitable for older adults whose long-term memories are better preserved than their recent memories. It can be delivered by trained non-specialist workers and has evidence for benefits in mood, quality of life, and family caregiver wellbeing.

CHAPTER ONE HUNDRED AND SEVENTY-SEVEN: DELIRIUM IN OLDER ADULTS: RECOGNITION, PREVENTION, AND MANAGEMENT

177.1 Delirium: An Underdiagnosed Medical Emergency

Delirium is one of the most common and most serious neuropsychiatric syndromes encountered in the care of elderly patients in hospital settings, yet it is also one of the most systematically under-recognized and under-managed. Studies in high-income countries have found that delirium is missed in 50 to 70 percent of cases by the clinicians caring for affected patients. In Bangladesh, where systematic awareness of delirium as a clinical entity is extremely limited and where the health system is not set up to identify or monitor it, the recognition rate is probably even lower.

Delirium is defined by an acute change in mental status characterized by disturbance of attention (reduced ability to focus, sustain, or shift attention), impaired cognition (disorientation, memory impairment, language disturbance), and fluctuating severity over the course of the day. It arises as a manifestation of an underlying medical condition or drug effect, and it typically resolves when the underlying cause is identified and treated, though in some patients, particularly those with pre-existing dementia, resolution may be incomplete and the episode may be followed by accelerated cognitive decline.

The clinical subtypes of delirium are important to recognize because they present differently and may therefore be identified (or missed) for different reasons. Hyperactive delirium, characterized by agitation, restlessness, picking behaviors, attempts to get out of bed, shouting, and sometimes combativeness, is the most visible and easiest to recognize, though it is also the subtype most likely to be misidentified as psychosis or behavioral disturbance and inappropriately treated with sedative medications. Hypoactive delirium, characterized by drowsiness, withdrawal, reduced responsiveness, and quiet confusion, is the most common subtype overall and the one most likely to be missed or attributed to depression, fatigue, or the natural effects of illness. Mixed delirium, with alternating features of both, is also common.

The clinical importance of recognizing delirium cannot be overstated. Delirium is associated with very high rates of adverse outcomes including prolonged hospital stay, complications during hospitalization, accelerated cognitive decline in patients with pre-existing dementia, new

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functional impairment that may persist after the acute episode, and a significantly elevated 30-day mortality rate. It is therefore not simply an inconvenient behavioral disturbance but a marker of serious medical illness requiring urgent investigation and treatment.

177.2 The Pathophysiology of Delirium

The pathophysiology of delirium is not fully understood, but several mechanisms are well established. Delirium represents a global failure of brain homeostatic mechanisms in the face of acute physiological stress, and it involves dysfunction of multiple neurotransmitter systems, particularly the cholinergic system (which is critical for attention and arousal), the dopaminergic system, and the serotonergic system.

The cholinergic hypothesis of delirium holds that the acute reduction in cholinergic neurotransmission, whether due to cholinergic drugs, hypoxia, metabolic disturbance, or direct neurological insult, is a central mechanism in delirium. This is supported by the observation that anticholinergic drugs reliably produce delirium when given in sufficient doses, and that cholinesterase inhibitors may sometimes reduce delirium severity. The dopaminergic excess hypothesis holds that excess dopaminergic transmission, which may result from the metabolic and inflammatory changes of critical illness, contributes to the psychotic and agitated features of hyperactive delirium.

Neuroinflammation is increasingly recognized as a central mechanism in delirium. Systemic inflammatory responses, whether from infection, surgery, trauma, or other causes, can breach the blood-brain barrier and activate microglial cells, producing a state of neuroinflammation that disrupts neurotransmitter function and impairs the brain's capacity to maintain normal consciousness and cognition. This mechanism helps explain why people with pre-existing dementia and neuroinflammation are so much more vulnerable to delirium than cognitively intact elderly individuals.

177.3 Prevention and Management of Delirium in Bangladesh

Prevention is the most effective strategy for reducing the burden of delirium. The Hospital Elder Life Program (HELP), developed by Sharon Inouye and colleagues, has demonstrated through extensive research that a systematic program of non-pharmacological interventions addressing established delirium risk factors can reduce the incidence of delirium by approximately 30 to 40 percent in hospitalized elderly patients. The core components of HELP are: orientation and cognitive stimulation (daily orientation activities, cognitively stimulating activities), sleep preservation (non-pharmacological sleep hygiene measures), early mobilization, vision and hearing correction (ensuring patients have their glasses and hearing aids), adequate hydration and nutrition, and early identification and management of pain. These interventions are simple, low-cost, and can be implemented by trained nurses and family members rather than requiring specialist staff.

In Bangladesh, the implementation of HELP-type programs in hospitals caring for elderly patients represents a highly feasible and high-value intervention that requires primarily training and organizational commitment rather than significant additional resources. Family members

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who are present at the bedside, which is the norm in Bangladeshi hospitals, could be trained to implement several of the core components, potentially creating a cost-effective model for delirium prevention in resource-limited settings.

The pharmacological treatment of delirium is, in most cases, not the primary intervention. The primary intervention is always to identify and treat the underlying medical cause. When pharmacological treatment of the behavioral manifestations of delirium (specifically agitation that poses a risk to the patient or others) is necessary, low-dose haloperidol has historically been the most widely used option because of its efficacy in reducing agitation without excessive sedation, though it carries the risks of extrapyramidal side effects and QTc prolongation. Atypical antipsychotics, particularly quetiapine and olanzapine, are increasingly used as alternatives. Benzodiazepines should generally be avoided in the management of delirium (except in the specific case of delirium due to alcohol or benzodiazepine withdrawal), as they typically worsen delirium by increasing sedation and worsening cognitive function.

CHAPTER ONE HUNDRED AND SEVENTY-EIGHT: LATE-LIFE PSYCHOSIS AND OTHER PSYCHIATRIC CONDITIONS IN OLDER ADULTS

178.1 Late-Life Psychosis: Classification and Clinical Features

Psychosis in older adults represents a diagnostically heterogeneous category that requires careful evaluation to determine the underlying etiology and appropriate treatment. The major categories of late-life psychosis, and the principles for distinguishing among them, are discussed in this chapter.

Very late-onset schizophrenia-like psychosis (VLOSLP) is the term applied to new-onset psychosis in people aged 60 and above who do not have dementia, delirium, or another identifiable organic cause. It is clinically similar to schizophrenia in its phenomenology (including delusions, hallucinations, and disorganized thinking) but has several features that distinguish it from earlier-onset schizophrenia: negative symptoms (blunted affect, alogia, avolition) tend to be less prominent; formal thought disorder is less common; the premorbid personality is typically better preserved; and women are disproportionately represented, making up 60 to 80 percent of cases. The neurobiology of VLOSLP is thought to involve a combination of genetic vulnerability and age-related changes in dopaminergic and other neurotransmitter systems, potentially exacerbated by sensory impairment (particularly deafness, which is well established as a risk factor).

Delusional disorder in older adults is common and often presents with persecutory delusions (beliefs of being watched, followed, harassed, or conspired against by neighbors, relatives, or unspecified others) in the absence of prominent hallucinations, affective disturbance, or cognitive impairment. Particularly common in elderly women living alone, it may be associated with social isolation, sensory impairment, and the realistic insecurities of old age (financial vulnerability, dependency on others, reduced physical ability to defend oneself). Managing delusional disorder in older adults is challenging because the patient often lacks insight and

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refuses treatment, and because the therapeutic relationship is the primary vehicle through which any improvement in functioning occurs.

Psychosis secondary to dementia is the most common form of late-life psychosis in a geriatric population. It includes the visual hallucinations of DLB, the delusions of AD (particularly Capgras syndrome, the belief that a familiar person has been replaced by an impostor, and theft beliefs), and the range of psychotic symptoms associated with other forms of dementia. Management follows the BPSD principles discussed in the previous chapter.

Secondary psychosis from organic causes is an important diagnostic category that must always be considered before making a functional diagnosis. Hypothyroidism, hyponatremia, hepatic encephalopathy, cerebral tumors, subdural hematoma, and medication toxicity (particularly from anticholinergic drugs, levodopa, and steroids) can all produce psychotic symptoms in elderly patients, and a systematic workup is essential.

The treatment of VLOSLP and delusional disorder in older adults involves antipsychotic medication at doses that are typically lower than those used in younger patients, given the pharmacokinetic and pharmacodynamic sensitivities described throughout this part. Risperidone, olanzapine, quetiapine, and aripiprazole are the most commonly used atypical antipsychotics in elderly patients. Low-dose amisulpride is also used. The specific metabolic and cardiovascular risks of atypical antipsychotics (weight gain, glucose dysregulation, QTc prolongation, orthostatic hypotension) are particularly important to monitor in elderly patients who already have elevated cardiovascular risk.

178.2 Other Psychiatric Conditions in Late Life: Brief Review

Substance use disorders in older adults are under-recognized and increasing in prevalence as the baby boom cohort ages with established patterns of alcohol and other substance use. In Bangladesh, alcohol use is much less common in the elderly population than in high-income countries, given the Islamic normative prohibition on alcohol. However, tobacco use (particularly bidi smoking and pan tobacco chewing) is extremely prevalent among older Bangladeshis and contributes substantially to cardiovascular disease, cerebrovascular disease, and cognitive decline. Opioid analgesic misuse in elderly patients with chronic pain is a growing concern.

Personality disorders in older adults are often under-recognized because their clinical presentation may change with aging, because their presence is assumed to represent fixed, untreatable character rather than a condition amenable to intervention, and because the available evidence base for personality disorder treatment in older adults is extremely limited. However, the specific interpersonal and emotional difficulties associated with personality disorders can significantly complicate the management of other mental health problems in elderly patients and deserve clinical attention.

Somatoform and medically unexplained symptoms in older adults represent a significant clinical challenge. Elderly patients with persistent somatic complaints that do not have a clear organic cause are common in general medical settings in Bangladesh, and they consume a

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disproportionate share of medical resources while often receiving neither an accurate diagnosis nor effective treatment. The distinction between somatoform disorder in the strict sense, medically unexplained symptoms secondary to depression or anxiety, and the functional amplification of real physical symptoms by psychological distress requires careful assessment.

CHAPTER ONE HUNDRED AND SEVENTY-NINE: SUICIDE AND SELF-HARM IN OLDER ADULTS: AN EMERGENCY IN SLOW MOTION

179.1 The Epidemiology of Late-Life Suicide

Suicide in older adults is a public health crisis that receives far less attention than adolescent suicide despite its comparable or greater severity. Globally, older adults, particularly older men, have among the highest suicide rates of any age group. In Bangladesh, while precise data are difficult to obtain because of reporting limitations, epidemiological studies have found alarmingly high rates of suicidal ideation in elderly populations. Studies in rural Bangladesh found that approximately 23 percent of elderly persons experienced suicidal thoughts. This figure, if generalizable to the national elderly population, implies that hundreds of thousands of older Bangladeshis are living with active suicidal ideation, with virtually no systematic mental health response.

The epidemiology of late-life suicide in Bangladesh differs in several important ways from adolescent suicide. While adolescent suicide in Bangladesh is disproportionately a female phenomenon, suicide in older adults has a different gender distribution, with older men having higher completed suicide rates than older women globally (though not necessarily in the Bangladeshi context, which has been less studied). Methods used by elderly persons tend to be more lethal than those used by younger people, reflecting a higher intent and a greater tendency for a single attempt to result in death. This means that the "suicide attempt to completed suicide ratio" is much lower in older adults than in younger ones, and that self-harm in an older adult should be taken extremely seriously.

The relationship between late-life suicide and late-life depression is close and clinically critical. The vast majority of older adults who die by suicide have a diagnosable psychiatric condition, most commonly major depression, at the time of their death. This creates both a tragedy (because depression is a treatable condition) and an opportunity: effective identification and treatment of depression in elderly people should, in principle, significantly reduce late-life suicide rates. The challenge is that late-life depression is massively under-identified and under-treated, as discussed throughout this part.

179.2 Risk Factors and Clinical Assessment of Suicide Risk in Older Adults

The risk factors for suicide in older adults overlap with but are not identical to those in younger adults. Major depression is the most important risk factor across all age groups. In older adults, additional specific risk factors include physical illness (particularly painful, disabling, or terminal conditions), functional impairment and loss of independence, social isolation and

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loneliness (particularly following bereavement), hopelessness (which in older adults may be particularly resistant to challenge given the realistic awareness of progressive decline), cognitive impairment (which is associated with elevated suicide risk in early stages when insight is preserved), previous suicide attempt, access to means (medications, pesticides, rope), and male sex.

In the Bangladeshi context, pesticide ingestion (particularly organophosphate compounds) represents a significant means of suicide for elderly people in agricultural settings, given its high lethality and widespread availability. The restriction of access to pesticides, through storage in locked containers, responsible dispensing practices, and community awareness programs, is an evidence-based suicide prevention strategy that is relevant across age groups but particularly important in the rural elderly population.

The clinical assessment of suicide risk in older adults requires explicit enquiry about suicidal ideation, since many elderly patients do not volunteer this information and may not see it as relevant to a medical consultation. The clinical encounter should include direct questions about whether the person has been having thoughts of not wanting to be alive, thoughts of death or dying, or thoughts of harming themselves. These questions, far from suggesting or encouraging suicidal behavior, typically come as a relief to patients who have been carrying these thoughts in isolation.

Risk stratification should assess the frequency, intensity, and nature of the ideation; the presence of a plan and access to means; the degree of intent; and the protective factors that are keeping the person alive (attachment to family, religious belief, fear of pain or medical consequences). This assessment should guide the urgency and nature of the clinical response.

179.3 Prevention of Late-Life Suicide: A Public Health Framework

The prevention of late-life suicide requires action at multiple levels: the clinical level (effective treatment of depression and other psychiatric conditions in elderly patients), the service level (access to mental health care for elderly people), the community level (social connectedness programs, reduction of loneliness and isolation), and the means level (restriction of access to highly lethal means, particularly pesticides).

In Bangladesh, the most feasible entry point for late-life suicide prevention at scale is the integration of depression screening and basic treatment into the routine care of elderly patients within primary care and general hospital settings. The mhGAP intervention guide provides a framework for this integration, with specific guidance for non-specialist health workers on the recognition and initial management of suicide risk. Training general practitioners, community health workers, and other members of the primary care workforce in basic geriatric mental health, including suicide risk recognition and response, is an achievable near-term goal that would have significant public health impact.

Community-level interventions that reduce social isolation and promote meaningful social engagement for elderly people have an important role in late-life suicide prevention. The traditional forms of social engagement in Bangladeshi communities, including mosque-based

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gatherings, community social events, and family networks, are important resources that are being progressively eroded by social change. Intentional programs to preserve and strengthen these social resources, including community centers for elderly people, volunteer programs that engage elderly people in meaningful activities, and community-based outreach to socially isolated older adults, represent important prevention investments.

CHAPTER ONE HUNDRED AND EIGHTY: CAREGIVING, FAMILY, AND CULTURE IN GERIATRIC MENTAL HEALTH IN BANGLADESH

180.1 The Cultural Constructions of Old Age in Bangladesh

Understanding how old age is culturally constructed in Bangladesh is essential for understanding the mental health challenges of the elderly population and the responses of families and communities to those challenges. Several powerful cultural frameworks shape the experience of aging in Bangladesh.

The Islamic framework, which is hegemonic for the majority Muslim population, accords old age a position of religious honor. The elderly are understood as repositories of wisdom, experience, and piety, and their care is a religious obligation of the highest order. The Quranic injunction toward honoring and caring for parents in old age is explicit and frequently invoked. This framework creates strong positive normative pressure toward filial care and toward the respect of elders.

At the same time, the Islamic framework's emphasis on the acceptance of God's will (tawakkul) and on the spiritual merit of enduring suffering with patience can create barriers to help-seeking for mental health problems in elderly people. An elderly person who is depressed may understand their suffering as a test from God that should be borne with patience and prayer rather than as a medical condition requiring treatment. A family that accepts the passive decline of an elderly relative into dementia as God's will may not recognize or act on the availability of treatments that could improve the person's quality of life.

The Hindu framework, shared by a smaller proportion of the population (approximately 8 to 9 percent of Bangladeshis are Hindu), has its own understandings of aging and its significance. In Hinduism, old age is the fourth stage of life (vanprastha and then sannyasa), associated with progressive withdrawal from worldly affairs and deepening spiritual practice. The concept of karma, the understanding that one's present circumstances are shaped by one's actions in previous lives, can provide both comfort (suffering in old age may be understood as the working out of previous karma that will lead to better circumstances in future lives) and distress (if the person understands their suffering as the deserved consequence of previous actions).

The indigenous communities of the Chittagong Hill Tracts have their own cultural frameworks for understanding aging and elder care, which are shaped by their distinct spiritual traditions, community structures, and histories of displacement and resistance. These frameworks deserve respectful engagement from health professionals who serve these communities.

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180.2 Changing Family Structures and the Future of Eldercare

The extended family as the primary unit of eldercare is under increasing pressure in Bangladesh, and this pressure is likely to intensify over the coming decades. The forces driving this change are multiple and interconnected.

Rural-to-urban migration separates adult children from elderly parents. The garment industry, which employs millions of young workers predominantly in Dhaka and Chittagong, has drawn a generation of women from their home communities into urban wage employment. International labor migration to the Middle East, Malaysia, and other destinations separates migrant workers from their families for years at a time, leaving elderly parents in rural households that may have no adult wage earner present. The economic and social returns of migration are real and important, but they come at a cost for the social fabric that supports the elderly.

Urbanization changes the housing arrangements that make extended family care possible. Urban apartments, which are smaller and more expensive than rural homes, often cannot accommodate an extended family. Urban working hours and commuting times reduce the practical availability of adult children for caregiving responsibilities. And the social norms of urban life, which are more individualistic and less community-embedded than rural norms, reduce the informal support that neighbors and community members might provide in rural settings.

The feminization of caregiving deserves specific attention. In Bangladesh, as globally, the great majority of informal caregiving for elderly family members is provided by women, specifically daughters-in-law and daughters. As women's participation in the formal labor force increases, which is both an important development goal and an economic necessity for many families, the time available for informal caregiving reduces. This creates a structural tension between the economic empowerment of women and the care needs of elderly family members that has no easy resolution and that demands policy responses including the development of formal care services, respite provision, and economic support for family caregivers.

180.3 The Needs of Family Caregivers: Recognition and Support

Family caregivers of elderly people with mental disorders in Bangladesh are themselves a population with significant unmet health needs. The mental health of family caregivers is consistently poor: studies globally show that depression affects approximately 30 to 50 percent of family caregivers of people with dementia, with higher rates in those providing more intensive care and in those with limited social support. In Bangladesh, where caregiver support services essentially do not exist and where the normative expectation is that caregiving should be provided cheerfully as a matter of duty, the identification of caregiver mental health problems is particularly challenging.

The clinical response to caregivers requires a shift in the understanding of who is the patient in geriatric mental health care. When a family member brings an elderly relative to a psychiatric or general medical clinic, the clinician should be assessing both the patient and the family system, including the caregiver. Assessment of caregiver burden, caregiver psychological distress, and caregiver coping strategies should be routine. Information and psychoeducation about the

condition affecting the elderly person, what to expect, and how to manage specific behavioral challenges should be provided to the family rather than only to the patient, since in moderate to severe dementia it is the family rather than the patient who needs to understand and apply this information.

Practical support for caregivers should be a component of clinical care. This includes guidance on financial entitlements (pensions, disability benefits), on legal issues such as power of attorney and the management of financial affairs when the patient lacks capacity, on respite services where they exist, and on how to access emergency support if a crisis occurs. The creation of caregiver support groups, facilitated by a trained health worker and bringing together family members caring for people with similar conditions, can provide powerful practical and emotional support at relatively low cost.

CHAPTER ONE HUNDRED AND EIGHTY-ONE: SERVICE DEVELOPMENT AND POLICY FOR GERIATRIC MENTAL HEALTH IN BANGLADESH

181.1 The Current State of Services: A Landscape of Almost Total Absence

The formal geriatric mental health service landscape in Bangladesh is, for practical purposes, almost entirely absent. There are no dedicated geriatric psychiatry units in public hospitals. There are no geriatric psychiatrists as a formally trained and recognized cadre. There is no national dementia strategy or national memory service network. There is no systematic program for the training of primary care providers in geriatric mental health. And the policy framework for aging, including the National Policy for the Elderly Persons 2013 and its various successors, has paid minimal attention to the specific mental health dimensions of elder care.

Mental illness among the geriatric group remains under-diagnosed, and geriatric psychiatry is a neglected entity in Bangladesh, with a lack of academic attention, research, and specialized mental health services for this population.

The unmet need in geriatric psychiatry is mounting, yet there is a dearth of research and holistic services for the geriatric population.

This situation represents one of the most serious gaps in the Bangladesh health system. The scale of unmet need, with hundreds of thousands of elderly people living with untreated depression, dementia, anxiety, and other mental disorders, is immense. The trajectory of need, given the rapidly growing elderly population, is sharply increasing. And the consequences of inaction, in terms of suffering, disability, caregiver burden, and social and economic costs, are devastating.

181.2 A Roadmap for Geriatric Mental Health Service Development in Bangladesh

Developing an adequate geriatric mental health service system in Bangladesh requires a strategic approach that is realistic about what is achievable with existing resources while being

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ambitious about the longer-term goals. The following roadmap, organized across three time horizons, provides a framework for this development.

In the immediate term (two to five years), the priority actions are: the integration of basic geriatric mental health content into the mhGAP training curriculum as used in Bangladesh, with specific attention to the recognition and initial management of late-life depression, delirium, and dementia; the development of a validated Bangla-language cognitive screening tool with appropriate population norms; the training of all existing psychiatrists and a cadre of interested general physicians in the clinical management of the most common geriatric mental health conditions; the establishment of a memory clinic within the National Institute of Mental Health (NIMH) and at least one or two divisional-level facilities; and the development of a national dementia awareness campaign targeting both the general public and health professionals.

In the medium term (five to ten years), the priority actions are: the integration of geriatric mental health into the postgraduate training of psychiatrists and of geriatric medicine as a specialty; the training of community health workers in the identification and basic management of late-life depression and dementia as part of the primary health care cadre; the development of community-based dementia support services including day programs and caregiver support groups; the establishment of a national dementia registry to provide the epidemiological data needed for service planning; and the development of residential care standards and inspection mechanisms for facilities providing care to elderly people with mental disorders.

In the longer term (ten to twenty years), the aspirational goals are: a network of geriatric psychiatry services at all divisional levels; a trained cadre of geriatric psychiatrists and geriatric medicine specialists; a national dementia strategy with specific targets for early diagnosis and appropriate care; income support and other social protection measures for elderly people that reduce the poverty-related drivers of late-life mental disorders; and an active research program on geriatric mental health in Bangladesh that generates the evidence base needed for culturally appropriate and resource-appropriate service development.

181.3 Existing Legislation and Its Implications for Geriatric Mental Health

Bangladesh's legal framework for the protection of the rights of elderly people and of people with mental disorders is incomplete and inadequately enforced. The key legislative instruments relevant to geriatric mental health include the Parents' Maintenance Act 2013, the Mental Health Act 2018, and the National Policy for the Elderly Persons.

The Parents' Maintenance Act 2013 was an innovative piece of legislation that created a legal obligation for adult children to financially support their elderly parents, with penalties for non-compliance. The policy intention was to provide legal backing for the filial care norms that are already embedded in cultural and religious frameworks. The practical implementation of this Act has been limited, however, and it is not yet clear how effectively it is being used or enforced. Its existence is nonetheless symbolically important as an expression of the state's recognition of the obligation toward elderly people.

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The Mental Health Act 2018 applies to people with mental disorders across the lifespan, including elderly people. Its provisions for involuntary assessment and treatment, for the appointment of a nominated representative to make decisions on behalf of people who lack decision-making capacity, and for the protection of the rights of people with mental disorders are relevant to the care of elderly people with dementia and other conditions that impair capacity. However, the Act's provisions for the protection of people with mental disorders who lack capacity are weaker than those in more advanced mental health legislation, and the specific needs of elderly people with dementia, who may require ongoing surrogate decision-making rather than the episodic interventions that the Act primarily envisions, are not adequately addressed.

Advance care planning, including the completion of advance directives that specify a person's wishes about medical treatment in the event that they lose capacity to make these decisions, is not addressed in Bangladesh's legal framework. This is a significant gap: people with dementia, who will inevitably lose decision-making capacity as their condition progresses, have a profound interest in having their previously expressed values and preferences taken into account in decisions made about their care after they have lost the ability to make these decisions themselves.

CHAPTER ONE HUNDRED AND EIGHTY-TWO: CONTROVERSIES IN GERIATRIC PSYCHIATRY

182.1 The Antipsychotic Controversy: Balancing Benefit and Risk in the Management of BPSD

Perhaps no issue in geriatric psychiatry is more contested than the use of antipsychotic medications to manage behavioral and psychological symptoms of dementia. The controversy crystallized in 2005 when the FDA issued a black box warning that atypical antipsychotics were associated with a significantly elevated risk of death in elderly patients with dementia, primarily from cardiovascular causes and pneumonia. This warning was subsequently extended to conventional antipsychotics. The risk increase, while statistically significant, is relatively modest in absolute terms: approximately one additional death per 100 patients treated over three months. But when millions of elderly patients with dementia are receiving antipsychotics, even a modest absolute risk increase represents a very large absolute number of attributable deaths.

The response to this evidence has been divided. One school of thought holds that the risk is so serious that antipsychotics should essentially never be used in elderly patients with dementia, and that non-pharmacological approaches should always be pursued instead. Another school holds that the risk must be weighed against the real and severe harm caused by untreated BPSD, which includes physical injury to the patient and caregivers from agitated behavior, profound impairment of quality of life, and sometimes the unsustainability of home care leading to premature institutionalization. A middle position, which most guidelines have adopted, holds that antipsychotics are appropriate in carefully selected patients whose BPSD is causing significant distress or risk and who have not responded to non-pharmacological approaches, but that they

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should be used at the lowest effective dose, for the shortest effective duration, with regular review and attempts to reduce or discontinue.

The practical application of this middle position requires clinical sophistication and an individualized approach that weighs the specific risks and benefits for each patient. In Bangladesh, where the temptation to use medication is strong (it is quicker, easier, and apparently more decisive than implementing behavioral approaches), the risk of unreflective antipsychotic prescribing in elderly patients with dementia is real and requires active countermeasures through prescribing guidelines, clinical audit, and education.

182.2 The Medicalization of Old Age: How Much Suffering Is Normal?

A profound philosophical controversy in geriatric psychiatry concerns the question of how much of the suffering of old age should be understood as pathological and therefore treated, and how much should be understood as a normal and potentially meaningful dimension of the human experience of aging that does not require medical intervention.

This controversy is particularly acute with respect to late-life depression. There is a real risk, which the critics of psychiatric medicalization have articulated forcefully, that the application of diagnostic criteria for major depressive disorder to elderly people pathologizes what is in fact appropriate sadness about the genuine losses of aging: the loss of health, of independence, of contemporaries, of the social roles that gave life structure and meaning. The question of whether an 80-year-old woman who has been widowed, is in physical pain, and sees no future worth living for is experiencing a pathological depressive disorder or an understandable human response to an objectively terrible situation does not have a simple answer, and the clinical decision about whether to intervene, and with what, requires engagement with both the clinical and the philosophical dimensions of the question.

The clinical answer to this dilemma is not to resolve the philosophical question once and for all but to engage with it case by case, with humility and with genuine attention to the patient's own understanding of their experience and preferences for care. The offer of treatment should not be conditional on a determination that the patient's suffering is "biological" rather than "existential"; both forms of suffering are real, both deserve clinical attention, and both can benefit from appropriate intervention, whether pharmacological, psychological, social, or spiritual.

182.3 Dementia Biomarkers and the Ethics of Pre-Symptomatic Diagnosis

One of the most significant recent developments in dementia research is the ability to identify the pathological changes of Alzheimer's disease, specifically amyloid deposition and tau accumulation, years or even decades before clinical symptoms develop, using cerebrospinal fluid biomarkers or PET scanning. This opens the possibility of diagnosing "preclinical Alzheimer's disease" in people who are cognitively normal but who have the pathological hallmarks of the disease.

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This development raises profound ethical questions. What does it mean to tell someone that they have preclinical Alzheimer's disease, when the relationship between the biomarker findings and the subsequent development of clinical dementia is probabilistic rather than certain? What is the psychological impact of such knowledge on the person and their family? Do people have a right not to know? What responsibilities do they have to inform others (partners, children who share genetic risk) once they know? And what practical benefit does such knowledge provide in the current state of the field, when no treatment is available that has been proven to prevent the conversion from preclinical to clinical AD?

These questions have not been resolved, and they are contested in the literature and in clinical practice. In Bangladesh, the practical relevance of preclinical AD diagnosis is currently minimal, since the diagnostic tools required are not available. But the ethical questions they raise are not merely academic: they are part of a broader set of questions about the ethics of predictive diagnosis in progressive and incurable conditions that are relevant throughout the field of neuropsychiatry and that will become increasingly relevant in Bangladesh as diagnostic technologies become more accessible.

182.4 Artificial Intelligence and Dementia: Promises and Perils

Artificial intelligence and machine learning approaches to dementia have attracted enormous research interest and considerable media attention in recent years. Multiple studies have demonstrated that AI algorithms applied to brain MRI, retinal photographs, voice recordings, and various wearable sensor data can detect early cognitive impairment with accuracy that, in research settings, exceeds that of standard clinical assessment. Several studies published in 2024 and 2025 have reported particularly striking results in the use of speech analysis (examining subtle changes in language, prosody, and speech patterns) for the early detection of AD.

The potential applications of AI in geriatric mental health in Bangladesh are genuinely interesting. If validated and affordable AI-based screening tools could be deployed in primary care settings or even through smartphone applications, they might help to address the massive diagnostic gap in a context where specialist expertise is not available. However, several cautions are important. Most AI tools for dementia detection have been developed and validated in high-income, Western, and predominantly white populations, and their performance in different cultural, linguistic, and genetic contexts (including Bangladesh) has not been established. Translation of research accuracy into clinical utility is a challenging step. And the risk of false positives, with the catastrophic psychological consequences of an inaccurate dementia diagnosis, must be carefully managed in any implementation.

CHAPTER ONE HUNDRED AND EIGHTY-THREE: ETHICAL AND PHILOSOPHICAL DIMENSIONS OF AGING AND MENTAL HEALTH

183.1 Decision-Making Capacity in Elderly Patients: Theory and Practice

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The assessment of decision-making capacity in elderly patients is one of the most clinically important and philosophically complex tasks in geriatric psychiatry. It arises in multiple clinical contexts: when an elderly person with dementia or severe depression refuses recommended treatment; when financial decisions need to be made on behalf of a person who may not be able to make them reliably; and when decisions about care arrangements, including institutionalization, are being considered for a person whose capacity to participate in these decisions is uncertain.

The conceptual framework for capacity assessment in the English-speaking world follows the MacArthur Competence Assessment Tool and related instruments, which assess capacity along four functional dimensions: understanding (the ability to understand information relevant to the decision), appreciation (the ability to apply this information to one's own situation), reasoning (the ability to weigh alternatives and reach a conclusion), and expression (the ability to communicate a choice). This framework is clinically useful and ethically sound, but its application in the Bangladeshi context requires several adaptations.

First, the content and values that inform "reasonable" decision-making differ across cultures. A decision that appears medically irrational from a biomedical perspective may make perfect sense within a different cultural framework of values and priorities. An elderly woman who refuses cancer treatment because she wants to spend the time she has with her grandchildren rather than in hospital is not necessarily lacking capacity; she may be making a completely coherent decision from within her own value system. The capacity assessment must not confuse departure from medical recommendations with lack of capacity.

Second, the involvement of family members in medical decision-making, which is normative in Bangladesh, complicates the individual capacity assessment. When the patient's expressed wishes align with the family's preferences, there is no difficulty. When they conflict, the tension between the patient's autonomy and the family's authority must be navigated with great care and sensitivity.

Third, the legal framework for managing the affairs of people who lack capacity in Bangladesh is underdeveloped, and the practical mechanisms for protecting these individuals while ensuring that their interests are appropriately represented are inadequate.

183.2 End of Life, Palliative Care, and Mental Health

The intersection of geriatric mental health with end-of-life care represents one of the most humanistically demanding areas of clinical practice. Mental disorders are extremely common in patients with terminal illness: depression affects approximately 20 to 30 percent of cancer patients in the last months of life, anxiety is even more prevalent, and delirium is almost universal in the days to hours before death.

The recognition and treatment of depression and anxiety at the end of life is ethically important and practically significant. Depression and anxiety at end of life are not simply natural responses to dying; they are genuine psychiatric syndromes that cause immense additional suffering beyond that inherent in the underlying terminal condition and that may be effectively

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reduced by appropriate treatment, both pharmacological and psychological. To accept them as inevitable and therefore untreatable is a form of ageism and therapeutic nihilism that denies the dying person access to comfort and quality of life that is legitimately available.

In Bangladesh, palliative care services are severely limited and are concentrated in a small number of specialized cancer care settings. The integration of mental health support into palliative care is essentially non-existent. The development of a hospice and palliative care movement in Bangladesh, with explicit attention to the psychological and spiritual dimensions of suffering at the end of life, represents an important unmet need that deserves both clinical and policy attention.

The spiritual dimensions of the dying process in Bangladesh are profoundly important and deserve engagement from clinicians who may not share the patient's religious beliefs. For elderly Bangladeshi Muslims, the approach of death is understood within a theological framework that includes the certainty of death (as decreed by God), the importance of the death-bed rite of reciting the shahada (declaration of faith), the expectation of questioning by the angels Munkar and Nakir in the grave, and the anticipation of resurrection and judgment. The fear of dying in a state of spiritual unpreparedness, or of being denied the opportunity to die among one's family with the proper religious observances, is a real and significant source of distress for many elderly patients that clinicians should understand and take seriously.

183.3 Ageism in Healthcare and Its Consequences for Geriatric Mental Health

Ageism, the prejudice or discrimination against people on the basis of their age, is pervasive in healthcare systems globally, including in Bangladesh. In the context of geriatric mental health, ageism manifests in several important ways.

Therapeutic nihilism, the assumption that mental disorders in old age are untreatable and that clinical intervention is therefore pointless, is one of the most damaging forms of ageism in clinical practice. The evidence unambiguously contradicts this assumption: late-life depression responds to treatment at rates comparable to depression in younger adults; antipsychotic treatment of late-life psychosis is effective; cognitive stimulation therapy and other non-pharmacological interventions for dementia have meaningful benefits; and the distress of elderly patients with anxiety and insomnia can be significantly reduced by appropriate interventions. To deny these interventions to elderly patients on the basis of their age alone is ethically unjustifiable.

Diagnostic neglect, the failure to assess elderly patients for psychiatric conditions because it is assumed that their problems are simply "what you would expect at their age," is another manifestation of ageism. Systematic cognitive screening, mood assessment, and enquiry about suicidal ideation should be as routine in the care of elderly patients as blood pressure measurement and blood glucose testing, and their absence reflects a failure to take the mental health of older patients seriously.

Resource allocation ageism, the systematic underfunding of mental health services for elderly people relative to those for younger adults, reflects and reinforces the devaluation of elderly

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people's quality of life and their entitlement to care. In Bangladesh, where resources for mental health are already catastrophically inadequate across the lifespan, the specific neglect of geriatric mental health represents a compounded failure that requires explicit policy correction.

CHAPTER ONE HUNDRED AND EIGHTY-FOUR: COMPREHENSIVE CASE STUDIES FOR PART TWELVE

Case Study 12.1: Late-Life Depression with Suicidal Ideation in a Liberation War Survivor

Azizul Islam is a 78-year-old man from Comilla district, a retired schoolteacher, who is brought to the outpatient department of the district hospital by his eldest son. The presenting complaint, as described by the son, is that "he has not been himself for the past six months; he has stopped going to the mosque, has lost his appetite, barely sleeps, and has been saying that he wants to die." The son is alarmed because his father has never in his life expressed anything like this before.

Azizul is a deeply private and stoic man who initially minimizes his son's concerns. He describes "some physical problems": backache, fatigue, "general weakness." When directly asked about his mood, he pauses for a long time before saying, quietly, that he does not find any pleasure in anything anymore and that there does not seem to be any point in continuing. He was a veteran of the Liberation War of 1971, having fought with the Mukti Bahini as a young man of 24. He has never spoken to anyone about his wartime experiences, not to his wife (who died seven years ago), not to his children, and not to any health professional.

The assessment reveals a six-month history of depressed mood (though he does not use that term), anhedonia, insomnia (waking around 3 AM and unable to return to sleep), poor appetite with weight loss of approximately 4 kilograms, fatigue, and difficulty concentrating. He has passive suicidal ideation ("I think about not waking up in the morning") without active plan or intent. He has no psychotic symptoms. Cognitive screening with the MMSE reveals a score of 25 out of 30, with deficits in recall and serial subtraction that the examining physician suspects may reflect both the cognitive symptoms of depression and the early changes of a vascular process. Physical examination reveals controlled hypertension on amlodipine and recent diagnosis of type 2 diabetes.

In a second consultation conducted without the son present, Azizul speaks with unexpected openness. He describes recurring nightmares about events during the Liberation War that he has never disclosed before and that he cannot describe in detail without becoming visibly distressed. He describes feelings of guilt about specific events that occurred during the war and about "things I was not able to prevent." He describes the death of his wife seven years ago as the point at which he lost his primary source of support and the person who, in his words, "kept me whole."

Formulation: This presentation is best understood as a late-onset, severe depressive episode in the context of multiple vulnerabilities: the accumulated and unprocessed trauma of wartime

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experiences (which the peaceful and demanding activities of a teaching career and family life had allowed him to contain for decades, but which retirement and bereavement have removed the containing structure for), the severe bereavement of his wife's death, the progressive physical health comorbidities of hypertension and diabetes, social isolation following retirement, and the possible contribution of vascular disease to a depressogenic brain state. The cognitive deficits on MMSE screening are likely to reflect both the cognitive symptoms of his depression and possibly early vascular cognitive impairment, and should be re-evaluated after effective treatment of the depression.

Management: The management plan is organized across several levels. Pharmacologically, sertraline is started at 25 mg with a plan to increase to 50 mg after two weeks and further to 100 mg if needed, along with careful monitoring for drug interactions with amlodipine and the risk of hyponatremia (which is elevated in elderly patients on SSRIs). Blood glucose and blood pressure control are optimized with liaison with the patient's general physician.

Psychologically, the clinical team initiates a series of supportive sessions with Azizul that create a safe space for him to speak about his wartime experiences for the first time in his life. These sessions do not follow a formal trauma therapy protocol (for which trained therapists are not available in the district hospital setting) but use the principles of active listening, validation, normalization of the trauma response, and the gradual construction of a narrative that integrates the wartime experience into his life story without being destroyed by it. Three sessions over two months create a noticeable shift in Azizul's demeanor: he is still depressed, but he is less weighted with the burden of complete silencing.

The son is educated about depression as a medical condition, about what it is and what it is not, about what he can do to help (maintaining connection, being present without demanding performance, ensuring regular meals and medication adherence), and about the importance of continued monitoring. The son is explicitly told about the suicide risk and about what to do if his father expresses more active suicidal ideation.

At three-month review, Azizul's depressive symptoms have improved substantially. He is sleeping better, his appetite has partially recovered, he has returned to attending Friday prayers (though not the daily prayers at the mosque that he had previously maintained), and he states that he no longer wishes to die. He has resumed writing, a lifelong habit that he had abandoned. The MMSE is repeated and improves to 28 of 30, confirming that much of the earlier cognitive deficit was attributable to the depression. The treating team plans to continue sertraline for at least twelve months and to review the need for ongoing maintenance treatment.

This case illustrates multiple important themes: the late presentation of war trauma in old age; the somatic idiom of distress in elderly Bangladeshi men; the importance of explicit enquiry about suicidal ideation; the role of bereavement, retirement, and loss of social role in precipitating late-life depression; and the feasibility of a combination of pharmacological and brief psychologically informed clinical intervention in a district hospital setting.

Case Study 12.2: Moderate Alzheimer's Disease with Behavioral Symptoms and Caregiver Distress

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Amina Begum is a 74-year-old woman from a middle-class family in Mymensingh, referred to the memory clinic at the divisional hospital by her son, a government official. The family had initially attributed her progressive forgetfulness to "old age," but over the past year her behavior has escalated to the point where the family is unable to manage: she wanders out of the house at night, does not recognize her daughter-in-law, and insists that money is being stolen from her. She recently struck the daughter-in-law during an argument about who had taken her jewelry (which she had in fact hidden and forgotten about).

Assessment over two visits, using the MMSE and an informant history from the son and daughter-in-law, reveals a four-year history of gradual cognitive decline. The MMSE score is 14 of 30, indicating moderate impairment. Orientation in time is severely impaired. Recent memory is essentially absent, while remote memory is relatively preserved (she can recall details of her wedding and of her children's early lives). Language is intact though she occasionally struggles for words. She is unable to copy a figure or perform calculation tasks. Her insight is absent: she denies any memory problems.

The behavioral symptoms include wandering (she attempts to leave the house, apparently believing she needs to return to her parents' home, which was demolished decades ago), paranoid delusions (specifically, the belief that the daughter-in-law is stealing from her), and episodes of verbal and physical aggression associated with the delusions. She is sleeping inadequately, waking in the early hours and becoming agitated. Her mood is variable; she is sometimes irritable and sometimes placid.

Physical examination is unremarkable except for mild hypertension. Blood tests including thyroid function, B12, renal and liver function, and blood glucose are within normal limits. Brain CT scanning, available at the divisional hospital, shows diffuse cortical atrophy with particular involvement of the temporal and parietal regions, and mild white matter changes, consistent with moderate Alzheimer's disease with possible vascular contribution.

The daughter-in-law, who is the primary caregiver, breaks down in tears during the consultation. She has been sleeping in the same room as Amina Begum for the past six months to prevent wandering, is getting an average of four hours of fragmented sleep per night, has withdrawn from all social activities, and describes feeling "like a prisoner." She has not discussed her distress with her husband because she feels it is her duty to provide this care without complaint. She scores 18 on the Patient Health Questionnaire (PHQ-9), indicating moderate depression.

Management has to address the patient, the behavioral symptoms, and the caregiver simultaneously. For Amina Begum, donepezil is started at 5 mg daily, with a plan to increase to 10 mg after one month if tolerated. The paranoid delusions are assessed as causing significant distress and as the primary driver of the behavioral incidents: after extensive discussion with the family about the risks and benefits, a trial of low-dose risperidone 0.25 mg at night is initiated, with a plan to review after four weeks and to discontinue if not clearly beneficial.

The family meeting is as clinically important as the pharmacological decisions. Both the son and the daughter-in-law are seen together and educated about Alzheimer's disease: what it is (a

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brain disease, not willful obstruction or rudeness), how it progresses, why the behavioral symptoms are occurring (they reflect the neurological damage, not the person's character), and what practical strategies can reduce their frequency. Specific behavioral management strategies are discussed: validation rather than correction (agreeing with Amina's emotional reality rather than arguing about factual errors), distraction and redirection, simplifying the environment, and establishing consistent routines. A door alarm is recommended to prevent nighttime wandering.

For the daughter-in-law, the recognition of her depression by the clinical team is itself experienced as a relief. She is referred to the outpatient psychiatry clinic for assessment and treatment of her depression. Sertraline 50 mg is started. The team explicitly discusses respite: the son is asked to take responsibility for caregiver duties on alternate nights to allow his wife to sleep. The idea of asking the son's sister (who lives locally) to provide three to four hours of cover twice a week is raised and agreed on.

At three-month review, Amina Begum's behavioral symptoms have partially improved: the nocturnal wandering has reduced significantly with the door alarm and improved sleep management, and the frequency and severity of delusional episodes has reduced, possibly related to the risperidone, though the team plans to attempt a dose reduction at the six-month review. The daughter-in-law's depression has responded well to sertraline and to the practical caregiver support; she is sleeping better and has resumed attending her weekly Quran study group. She describes the experience of being recognized as a patient in her own right as "the first time someone asked how I was, not just how Amina Begum was."

This case illustrates the critical importance of addressing caregiver mental health as part of dementia care management, the complex pharmacological decision-making required in BPSD, the value of practical environmental and behavioral interventions, and the culturally specific dynamics of family caregiving in Bangladesh.

Case Study 12.3: Delirium Superimposed on Mild Dementia in an Elderly Hospital Patient

Rafiqul Hasan is a 79-year-old man with known mild cognitive impairment who is admitted to a general medicine ward in a tertiary hospital in Dhaka with pneumonia. He is started on intravenous antibiotics and supportive treatment. On the second night of his admission, the night nurse calls the duty doctor because Rafiqul is "behaving strangely": he is trying to climb out of bed, shouting for his wife (who died two years ago and who he appears to believe is present), pulling at his intravenous line, and appearing terrified by something that no one else can see.

The duty doctor, who has received no training in delirium, interprets the episode as an acute psychotic breakdown and prescribes chlorpromazine 50 mg intramuscularly. The patient is chemically sedated and is much quieter for the next several hours, but the following morning he is drowsier than before, has a fall when attempting to go to the bathroom, and is found to have a urinary retention requiring catheterization.

A trainee psychiatrist on the consultation-liaison team is called. The psychiatric assessment reveals: acute onset of disturbed behavior (beginning the second night of admission), marked fluctuation in level of consciousness over the course of the assessment (the patient is alternately

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drowsy and agitated within the same hour), severely impaired attention (the patient cannot follow a conversation for more than a sentence before becoming distracted), disorientation (he believes he is at home in his village), and visual hallucinations (he reports seeing "small children" near the window).

The CAM (Confusion Assessment Method) criteria are met, confirming the diagnosis of delirium. Review of the medical notes identifies several potential contributing factors: hypoxia on initial admission (oxygen saturation 88 percent, now corrected), dehydration on admission (now partially corrected with IV fluids), urinary retention (which the catheter has now addressed), and the previous night's chlorpromazine, which has contributed to the morning's drowsiness and may have worsened the delirium despite its short-term behavioral effect.

Management is revised: the chlorpromazine is discontinued. Oxygen is continued. The IV fluids are maintained. A nursing care plan emphasizing the principles of delirium management is implemented: regular reorientation (nursing staff and family members reminded of patient's name, date, place), hearing and glasses ensured, a single nursing staff member assigned to provide consistent care, attempts to maintain a normal day-night cycle (brighter lighting in the day, dimmer lighting at night), oral hydration actively encouraged, and early mobilization as soon as safely possible. A family member is asked to remain at the bedside during the day to provide familiar social stimulation and to help with reorientation.

Over the next 48 hours, as the pneumonia responds to antibiotics and the contributing factors are addressed, Rafiqul's delirium begins to resolve. By day five he is fully oriented and no longer hallucinating, though he is somewhat fatigued and his cognitive function is not quite back to his pre-admission baseline. He is discharged with a plan for cognitive re-evaluation at the outpatient clinic six weeks later.

This case illustrates several important principles: the vulnerability of patients with pre-existing cognitive impairment to delirium; the catastrophic potential of inappropriate pharmacological management of delirium; the critical importance of identifying and treating underlying causes rather than merely sedating the behavioral manifestations; and the value of non-pharmacological nursing care and family involvement in delirium management.

Case Study 12.4: Grief, Late-Life Depression, and Cultural Healing in an Elderly Woman from Sylhet

Nur Jahan Bibi is a 72-year-old woman from a village in Moulvibazar district who is brought to the upazila health complex by her son. She has been widowed for eight months, following the death of her husband of 52 years. The son is worried because she has barely eaten since her husband's death, has lost substantial weight, spends most of her time sitting alone in silence, and occasionally says "what is the point of eating, I will be with him soon."

The medical officer at the upazila health complex, who has received some mhGAP training, recognizes the possibility of late-life depression complicated by grief and refers Nur Jahan to the district hospital outpatient psychiatry clinic.

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The clinical assessment is conducted with sensitivity to the profound loss she has experienced. The clinician takes time to hear about her husband, their life together, and the nature of their relationship before moving to a systematic assessment of depressive symptoms. This approach is not merely courtesy; it is clinically necessary, because the distinction between a grief reaction and major depressive episode requires understanding the character and context of the loss.

What emerges is that Nur Jahan's grief is complicated by several factors. Her husband was not only her partner but her only close relationship and her primary source of social and psychological support. He managed all financial affairs and all relationships with the outside world, leaving her with little knowledge of or engagement with practical life beyond the domestic sphere. His death has left her not only bereft but practically isolated and functionally dependent on her sons in ways that feel deeply shameful. She describes a sense of having "no self" without him. Several elements suggest that the grief has crossed into major depressive episode: the duration of severe symptoms beyond what is culturally expected (eight months of barely eating and social withdrawal is significantly outside the normative period of intense grieving in her community); the passive suicidal ideation; and the severity of functional impairment.

The clinical management engages with her cultural and spiritual framework explicitly. The clinician acknowledges the Islamic understanding of death as God's decree and of grief as a natural response that is expected and honored, while explaining that the intensity and duration of her symptoms suggests that she may be experiencing a medical condition called "excessive grief" (using locally resonant terminology rather than the English term "major depressive episode") that can be helped by treatment. The example of the Prophet's well-documented grief at the deaths of family members is mentioned as evidence that grief is recognized and honored in the Islamic tradition, and that seeking help for overwhelming grief is compatible with Islamic faith.

Mirtazapine 15 mg at night is started, chosen partly for its appetite-stimulating properties in a patient who has been significantly undereating. The son is educated about the importance of regular meals, of social engagement (encouraging family visits rather than leaving the mother alone), and of gently encouraging mobility and activity. A local mosque-based women's group is identified where Nur Jahan might, when she is a little better, find companionship and social engagement.

A follow-up visit at six weeks reveals meaningful improvement: she is eating better, has gained approximately 1.5 kilograms, is engaging more with her grandchildren, and no longer expresses suicidal ideation. She remains sad and misses her husband profoundly, which is appropriate and expected, but the overwhelming paralysis of the acute depressive episode has lifted. She expresses gratitude that "someone understood that I needed help, not just to be told to have patience."

This case illustrates the importance of distinguishing complicated grief from major depressive disorder; the engagement with cultural and religious frameworks in clinical communication; the choice of pharmacological treatment based on the specific symptom profile; and the role of social and community resources in recovery.

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CHAPTER ONE HUNDRED AND EIGHTY-FIVE: INVESTIGATION PROTOCOLS FOR GERIATRIC MENTAL HEALTH IN BANGLADESH

185.1 Investigation Protocol for Late-Life Depression at Different Levels of Care

At the primary care or upazila health complex level, the initial assessment of a patient presenting with features suggesting late-life depression should include a basic blood test panel: complete blood count (to exclude anemia as a contributing cause of fatigue and low mood), blood glucose (to exclude uncontrolled diabetes), thyroid function tests (to exclude hypothyroidism, which can cause or exacerbate depressive symptoms), and renal function. Where clinically indicated by the history or examination, B12 and folate levels should be measured, and where available a screen for other metabolic causes of cognitive and mood change (liver function, calcium) should be added.

Assessment instruments at this level should include the GDS-15 (Bangla version), applied by a trained health worker, and a brief cognitive screening using the MMSE or MoCA (Bangla version) to distinguish depression from dementia and to identify mixed presentations. The Columbia Suicide Severity Rating Scale (C-SSRS) or equivalent structured suicide risk assessment should be applied when suicidal ideation is identified.

At the district hospital level, the investigation protocol expands. In addition to the above, ECG should be performed before initiating antidepressants with QTc-prolonging potential, particularly in patients with cardiac history. Where cognitive impairment is identified, brain CT scanning should be performed to exclude structural causes. Urine toxicology (for substance use) may be relevant in selected cases. Where resources permit, EEG may be indicated in patients with unusual or treatment-resistant presentations.

At the tertiary hospital or memory clinic level, the full investigation protocol for potential late-life depression complicated by cognitive impairment or treatment resistance may include: MRI brain (with attention to white matter hyperintensities and hippocampal atrophy); neuropsychological assessment by a trained clinical psychologist; autoimmune encephalitis antibody panel (particularly in younger elderly patients with rapid onset or unusual features); thyroid antibodies (to exclude Hashimoto's encephalopathy); and CSF analysis if CNS infection or inflammatory conditions are suspected. Neuropsychological testing provides a detailed cognitive profile that guides diagnosis and care planning in a way that brief bedside screening cannot.

185.2 Investigation Protocol for Suspected Dementia

The investigation of suspected dementia at the primary care level follows a stepped approach. The essential minimum workup includes: cognitive screening (MMSE or MoCA with age and education adjustment), informant history (IQCODE if available), complete blood count, blood glucose, renal and liver function, thyroid function, B12 and folate levels, and lipid profile. VDRL

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(syphilis serology) should be included where clinically relevant. HIV testing should be offered where appropriate. Physical examination including a brief neurological screen is mandatory.

At the district hospital level, brain CT scanning is added, both to exclude treatable structural causes (subdural hematoma, normal pressure hydrocephalus, brain tumor) and to identify vascular pathology. CT findings consistent with diffuse cortical atrophy support an Alzheimer's diagnosis. Bilateral periventricular white matter changes support a vascular contribution. Frontal or temporal predominant atrophy raises the possibility of frontotemporal dementia.

At the tertiary level, MRI brain is superior to CT for detailed assessment of hippocampal atrophy and white matter changes. Neuropsychological assessment provides detailed profiling of cognitive strengths and weaknesses across multiple domains (memory, language, executive function, visuospatial function, attention) that assists in diagnosis and care planning. Where available, functional neuroimaging (FDG-PET or SPECT) can provide additional diagnostic information in uncertain cases. Genetic testing for familial forms of AD (APP, PSEN1, PSEN2) is indicated only in cases of early-onset dementia with a clear family history.

185.3 Investigation Protocol for Delirium in Elderly Patients

The investigation of delirium focuses on identifying the underlying medical cause or causes. The essential first-line investigations include: complete blood count and differential (to identify infection, anemia); CRP or ESR (to quantify inflammatory response); renal function and electrolytes (to identify metabolic disturbance, particularly hyponatremia and uremia); blood glucose; liver function tests; blood and urine cultures (if infection is suspected); urinalysis and urine culture; oxygen saturation and arterial blood gas (if hypoxia suspected); ECG (to identify cardiac arrhythmia or ischemia); chest X-ray (to identify pneumonia); and a complete review of all medications (to identify iatrogenic causes).

When the initial workup does not reveal a clear cause, second-line investigations should be considered: lumbar puncture for CSF analysis (if CNS infection or inflammation is suspected); EEG (to exclude non-convulsive status epilepticus, which can present as delirium); CT or MRI brain (if intracranial pathology is suspected); and a full autoimmune encephalitis panel (in cases with unusual features or without a clear systemic cause).

Assessment instruments for delirium should include the Confusion Assessment Method (CAM), which provides a validated and operationalized framework for confirming the delirium diagnosis, and the CAM-ICU adaptation for patients who cannot speak. Serial MMSE assessment, compared with the patient's known premorbid baseline, provides a quantitative measure of the severity and trajectory of the delirium.

CHAPTER ONE HUNDRED AND EIGHTY-SIX: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART THIRTEEN

186.1 Key Themes from Part Twelve

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Part Twelve has traversed the territory of geriatric psychiatry and the mental health of older adults in Bangladesh with the depth and breadth that its clinical importance and its current neglect together demand. The key themes that have emerged are worth consolidating before we move forward.

The demographic imperative is the organizing fact of this part. Bangladesh is aging rapidly. The proportion of older adults in the population is growing steadily, and will continue to grow for decades. The absolute number of elderly people with mental disorders, already enormous, will increase dramatically over the coming decades. This is not a future problem: it is a present crisis that is already massive in scale and growing in urgency.

The burden of unaddressed mental illness in the elderly population of Bangladesh is staggering. Late-life depression, with prevalence rates of 30 to 50 percent in community studies and even higher in clinical settings, is both the most common and one of the most treatable conditions. Dementia, with an estimated 1.2 million cases already and a trajectory toward 3.4 million by 2051, represents a growing public health emergency without a national strategy or an adequate workforce. Anxiety, insomnia, late-life psychosis, and the devastating experience of poorly managed delirium in hospitalized elderly patients compound this burden.

The service response is grossly inadequate. There are no dedicated geriatric psychiatry services, no trained geriatric psychiatrists, no national dementia strategy, and no systematic integration of geriatric mental health into primary care. The Mental Health Act 2018, while representing progress, does not adequately address the specific needs of elderly people with dementia and related conditions. The policy framework for aging has barely acknowledged the mental health dimension of elder care.

The family carries the burden that the state has failed to assume. Family caregivers, predominantly daughters-in-law and daughters, provide intensive and often devastating care for elderly relatives with mental disorders without professional support, respite, or recognition of their own needs. Caregiver mental health is a public health issue in its own right, inseparable from the mental health of the elderly people they care for.

Cultural frameworks of aging, whether Islamic, Hindu, or indigenous, profoundly shape the experience of late-life mental illness, the explanatory models through which it is understood, and the help-seeking pathways through which it is addressed. Clinical practice that ignores these frameworks is both less effective and less respectful than practice that engages with them.

The treatment gap, while vast, is not inevitable. Evidence-based interventions exist for every major geriatric mental health condition. The challenge is not the absence of knowledge but the absence of resources, workforce, political will, and organizational systems to translate that knowledge into care at scale. The task-sharing model, which has shown promise across other domains of mental health care in Bangladesh, is equally applicable to geriatric mental health and represents the most feasible near-term path toward expanding access.

Dementia prevention is achievable and urgent. The modifiable risk factors for dementia include hypertension, diabetes, smoking, physical inactivity, cognitive inactivity, depression, hearing

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loss, and social isolation. All of these are addressable through public health programs that do not require specialist mental health services. Hypertension control in midlife, the single most important modifiable risk factor for both vascular dementia and Alzheimer's disease, is a particularly high-leverage intervention that is achievable within the existing primary care system.

The ethics of geriatric mental health care require explicit engagement. Ageism in healthcare denies elderly people access to treatments they are entitled to receive. The medicalization of normal aging pathologizes what should be understood as part of the human condition. The balance between respecting the autonomy of elderly patients and providing appropriate care when they lack capacity requires careful, case-by-case clinical judgment. End-of-life care, and the recognition that psychological and spiritual suffering at the end of life is as deserving of clinical attention as physical suffering, represents a frontier that is barely touched in Bangladesh.

The advocacy agenda for geriatric mental health in Bangladesh is clear. It requires the development of a national dementia strategy; the integration of geriatric mental health content into primary care training; the establishment of memory clinics at divisional level; the recognition of caregivers as a population with their own health needs; the reform of the policy framework for aging to include mental health as a central element; and the development of an active research program on geriatric mental health in Bangladesh that generates the evidence base for context-appropriate service development.

186.2 Connections to Part Thirteen

Part Thirteen of this textbook turns to the area of consultation-liaison psychiatry and the psychiatry of physical illness: the management of psychiatric conditions arising in the context of physical disease, the psychiatric consequences of chronic medical conditions, and the complex interplay between mental and physical health that represents one of the most important and least adequately addressed frontiers of clinical medicine in Bangladesh.

The connections between Part Twelve and Part Thirteen are numerous and important. Elderly patients represent a disproportionate share of those who present with the complex comorbidities of mental and physical illness: the depressed diabetic patient, the anxious cardiac patient, the cognitively impaired stroke survivor, the delirious cancer patient are all figures who inhabit both the geriatric psychiatry and the consultation-liaison psychiatry landscapes. The epidemiology of comorbid mental and physical illness in Bangladesh, the organizational challenges of providing mental health care within general hospital and primary care settings that are primarily organized around physical disease, the specific pharmacological challenges of treating mental illness in people with multiple medical conditions and complex polypharmacy, and the ethical dimensions of care for people with diminished capacity in the context of serious physical illness are all themes that Part Thirteen will explore with the same depth and Bangladesh-specificity that has characterized Part Twelve.

The transition from geriatric psychiatry to consultation-liaison psychiatry is not merely organizational. It reflects a fundamental continuity in the insight that the separation of mental

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from physical health, enshrined in the administrative and organizational structures of the health system, does not reflect the actual experience of patients or the actual biology of the mind-body system. Psychiatry at its best is always the psychiatry of the whole person, situated in a body, embedded in a family, placed in a community, and understood within a cultural and historical context. This integrative vision, which is the animating principle of the entire textbook, is nowhere more urgently needed than in the care of the elderly, where the body and the mind age together and where the clinical, ethical, and humanistic challenges of practice are most demanding.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART TWELVE

Vignette 12.1: An 81-year-old man from a fishing community in Cox's Bazar is brought to the upazila health complex by his adult son. The son reports that his father has been "confused" for the past three weeks, is sleeping badly, and was found last night trying to leave the house to go to his fishing boat (which he retired from ten years ago). He has a known history of hypertension and recently completed a course of antibiotics for a chest infection. On examination he is unable to say the date or why he is at the clinic, and his attention is severely impaired. He had no cognitive problems before this episode. How would you differentiate between delirium and acute dementia? What investigations would you prioritize? What would be your immediate management?

Vignette 12.2: A 68-year-old widow living alone in a Dhaka apartment is referred by her general practitioner who has noticed that she has become increasingly thin and has been making multiple visits for physical complaints over the past six months without any clear organic cause. On enquiry, she reports that since her daughter emigrated to Canada three months ago she has felt "empty" and that there is "no one left for her." She denies feeling depressed but scores 11 on the GDS-15. How would you interpret these findings? What diagnostic considerations are most important? What management would you recommend, and how would you engage her social situation?

Vignette 12.3: A 76-year-old man with moderate dementia is brought to the outpatient clinic by his wife, who describes escalating behavioral problems over the past two months: he accuses her daily of being unfaithful and of planning to abandon him, shouts at her, and has struck her twice. She is frightened and exhausted and says she cannot continue. How would you assess and manage this situation? What are the ethical dimensions of the management decision? How would you support the wife while also planning the patient's care?

Vignette 12.4: A 70-year-old woman is admitted to a general medicine ward with a fracture following a fall. On the second day of admission, she is tearful, states that she has nothing to live for, and discloses that she has been thinking about "ending it" for months. She has a six-month history of hip pain that has severely restricted her mobility and social life. Her husband died four years ago and her children live in Dhaka, two hours away. How would you assess her? What is the most likely diagnosis? What management would you recommend? How would you engage her children?

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Vignette 12.5: An 80-year-old man from a rural community in Bogura is assessed at the district hospital memory clinic. He has a four-year history of gradual memory decline but has been managing at home with his wife's support. His MMSE score is 19 of 30. His CT brain shows moderate cortical atrophy and bilateral periventricular white matter changes. His blood tests are unremarkable. His wife is 74 and has her own health problems. They have three adult children, two of whom live in Dhaka. What is the most likely diagnosis? What pharmacological treatment, if any, would you recommend? What non-pharmacological interventions would you discuss? How would you plan for future care needs?

STUDY QUESTIONS FOR PART TWELVE

Describe the demographic transition underway in Bangladesh and explain its implications for the mental health burden in the older adult population over the coming decades. What public health and clinical policy responses are most urgently needed?

Explain the specific features of late-life depression that distinguish it from depression in younger adults. Why is late-life depression frequently unrecognized in Bangladesh? What assessment instruments are most appropriate, and what pharmacological and psychological treatment approaches are most evidence-based in this population?

Discuss the epidemiology of dementia in Bangladesh, drawing on available estimates. What are the most important modifiable risk factors for dementia in the Bangladeshi context, and what prevention strategies are most feasible? How does the trajectory of dementia burden in Bangladesh compare to that in high-income countries?

Explain the pathophysiology and clinical features of delirium and describe how it is distinguished from dementia and acute psychosis. Why is delirium so frequently missed in clinical practice, and what are the clinical and ethical consequences of this under-recognition? Describe a delirium prevention program appropriate for implementation in a Bangladeshi district hospital.

Analyze the experience and needs of family caregivers of elderly people with dementia in Bangladesh. What is known about the mental health impact of caregiving in this context? What interventions can support caregivers, and how should these be incorporated into clinical care?

Discuss the ethical issues arising in the clinical management of elderly people with dementia who lack decision-making capacity. How should treatment decisions be made? What does the existing legal framework in Bangladesh provide, and what are its gaps?

Describe the behavioral and psychological symptoms of dementia (BPSD). What is the evidence regarding pharmacological treatment with antipsychotics, and why is this approach controversial? What non-pharmacological alternatives are available, and what is their evidence base?

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Analyze the cultural frameworks through which aging, mental illness, and death are understood in Bangladesh, drawing on both Islamic and indigenous traditions. How do these frameworks support and how do they obstruct clinical engagement with the mental health needs of elderly Bangladeshis?

FURTHER READING FOR PART TWELVE

Geriatric Psychiatry: Foundational Sources

Jacoby, Robert, Oppenheimer, Catherine, Dening, Tom, and Thomas, Alan (editors), "Oxford Textbook of Old Age Psychiatry" (third edition, 2020), remains the definitive comprehensive reference for the subspecialty and provides detailed accounts of all the major clinical conditions, treatments, and service issues addressed in this part. Essential for those seeking an authoritative global perspective.

Blazer, Dan G., "Depression in Late Life" (third edition, 2002), while now somewhat dated in its pharmacological content, remains an invaluable clinical and conceptual guide to the phenomenology, epidemiology, and treatment of late-life depression. Its account of the specific clinical features and cultural dimensions of late-life depression is particularly valuable.

Inouye, Sharon K., Westendorp, Rudi G. J., and Saczynski, Jane S., "Delirium in elderly people," The Lancet (2014), provides the most comprehensive and accessible account of the epidemiology, pathophysiology, clinical features, and management of delirium in elderly patients. The Hospital Elder Life Program (HELP), described in this review, represents the most evidence-based framework for delirium prevention.

Dementia: Key References

World Alzheimer Report 2023, published by Alzheimer's Disease International, provides the most up-to-date global epidemiological data on dementia and reviews the evidence for risk reduction and treatment approaches. Its specific data on low- and middle-income countries including Bangladesh is particularly relevant.

Naheed, A., and colleagues, "Prevalence of dementia among older age people and variation across different sociodemographic characteristics: a cross-sectional study in Bangladesh," Lancet Regional Health Southeast Asia (2023), represents the most comprehensive and methodologically rigorous study of dementia prevalence in Bangladesh and should be read as the primary epidemiological source for this condition.

Rahman, M. S., and colleagues, "Unmet needs for mental care services for older people in Bangladesh during the COVID-19 pandemic," General Psychiatry (2020), documents the specific vulnerabilities of older Bangladeshis with mental disorders in the context of the pandemic and provides data on unmet need that remain relevant beyond the pandemic period.

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Bangladesh-Specific Geriatric Mental Health Sources

Arafat, S. M. Y., Mazumder, A. H., and Maruf, M. M., "Geriatric Psychiatry in Bangladesh," in Arafat, S. M. Y. (editor), "Mental Health in Bangladesh: From Bench to Community," Springer Nature Singapore (2024), provides the most current comprehensive overview of geriatric psychiatry in Bangladesh from a Bangladeshi perspective and should be read as an essential supplement to this part.

Arafat, S. M. Y., and Mazumder, A. H., "Geriatric Psychiatry in Bangladesh: Current Status and Ways Ahead," in Kar, N., Kar, S. K., and Arafat, S. M. Y. (editors), "Geriatric Psychiatry in South Asia," Springer Nature (2025), updates the 2024 chapter with the most recent data and policy developments.

Mazumder, H., Murshid, M. E., Faizah, F., and Hossain, M. M., "Geriatric mental health in Bangladesh: a call for action," International Psychogeriatrics (2020), represents the landmark call to action that first systematically documented the scale of unmet need in geriatric mental health in Bangladesh and remains essential reading for anyone engaged in this field.

Hossain, M. K., Islam, M. N., Uddin, M. T., and Hossain, M. S., "Understanding the impact of socioeconomic and health factors on geriatric depression: a comparative study in rural and urban Bangladesh," Health Science Reports (2024), provides the most comprehensive recent data on the prevalence and determinants of geriatric depression in Bangladesh.

Rahman, Maisha Khan, and colleagues, "Prevalence and associated risk factors for depression, anxiety, insomnia, and loneliness among the geriatric population in Bangladesh: a cross-sectional study," BMC Psychiatry (November 2025), provides the most recent epidemiological data on the full spectrum of geriatric mental health conditions in Bangladesh and should be read as the primary current epidemiological reference.

Alam, R. B., and Ostler, T., "Geriatric mental health practice with dementia patients in Bangladesh: Challenges and future directions," Asian Journal of Psychiatry (2024), examines the specific challenges and opportunities in dementia care in Bangladesh and articulates a framework for service development.

Wahlin, A., and colleagues, "Prevalence of depressive symptoms and suicidal thoughts among elderly persons in rural Bangladesh," International Psychogeriatrics (2015), remains the primary source for data on suicide risk in the elderly Bangladeshi population.

Philosophy and Ethics of Aging

Erikson, Erik H., and Erikson, Joan M., "The Life Cycle Completed" (extended version, 1998), provides the most accessible account of Erikson's developmental theory as applied to old age, including his concept of ego integrity versus despair that is discussed in this part.

Frankl, Viktor E., "Man's Search for Meaning" (1959, multiple subsequent editions), while primarily a memoir of the Nazi concentration camps rather than a geriatric psychiatry text,

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provides the most compelling account of the search for meaning in extremis and its clinical implications. Its relevance to the existential challenges of late-life depression and end-of-life care is profound.

Nuland, Sherwin B., "How We Die: Reflections on Life's Final Chapter" (1994), provides a deeply humanistic account of the biology and experience of dying that remains one of the most thoughtful and clinically relevant accounts of end-of-life care ever written.

Caregiver Support

Schulz, Richard, and Eden, Jill (editors), "Families Caring for an Aging America," National Academies of Sciences, Engineering, and Medicine (2016), is the definitive account of the evidence on family caregiving for elderly people, including the mental and physical health impacts on caregivers and the evidence for support interventions. While primarily based on US evidence, its conceptual framework and evidence synthesis are applicable globally.

Part Twelve concludes here. Part Thirteen addresses Consultation-Liaison Psychiatry and the Psychiatry of Physical Illness: the recognition and management of psychiatric conditions in the context of medical and surgical illness, the bidirectional relationship between mental and physical health, the challenges of providing mental health care in general hospital settings in Bangladesh, and the clinical and ethical complexities of treating patients whose mental and physical health needs are inseparably intertwined.

Part Twelve: Geriatric Psychiatry and the Mental Health of Older Adults in Bangladesh forms a component of "Psychiatry and Behavioral Science: A Bangladesh Perspective," a Comprehensive Textbook for Medical Students, Clinicians, and Public Health Professionals.

PART THIRTEEN: CONSULTATION-LIAISON PSYCHIATRY AND THE PSYCHIATRY OF PHYSICAL ILLNESS IN BANGLADESH

The Mind Inside the Body: Integrated Clinical Science, Neurobiology, Epidemiology, Cultural Context, and the Challenge of Building a Discipline That Bangladesh Urgently Needs

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INTRODUCTORY NOTE TO PART THIRTEEN

Every general physician in Bangladesh has encountered the patient who, in the middle of an admission for a myocardial infarction, begins to weep uncontrollably and says that they wish they had not survived. Every nephrologist has sat with a dialysis patient who, after three years of thrice-weekly treatment, refuses to continue despite a strong likelihood that discontinuation means death. Every neurologist has managed a patient with epilepsy whose seizures are perfectly controlled by medication but who cannot leave the house, cannot work, and describes a

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quality of life so impoverished that the word "controlled" seems a cruel irony. Every oncologist has watched patients deteriorate not from their cancer but from a profound demoralization that existing treatments do nothing to address. And every surgeon has puzzled over the patient who, three weeks after a technically successful operation, still cannot get out of bed, eats almost nothing, and tells anyone who listens that they are waiting to die.

These are not rare or unusual cases. They are ordinary clinical encounters in every large hospital in Bangladesh, repeated thousands of times daily across the country's network of district hospitals, medical college hospitals, and specialized tertiary facilities. They are ordinary in the sense of being common. They are extraordinary in the sense that the training and the service structures that most clinicians have available to them do not equip them to respond adequately.

Consultation-liaison psychiatry, which in different parts of the world is also called liaison psychiatry, psychosomatic medicine, or integrated behavioral health, is the subspecialty of psychiatry that addresses precisely this terrain: the recognition and management of mental disorders arising in people with physical illness, the psychiatric dimensions of medical and surgical care, the psychological consequences of bodily disease, and the organizational challenges of providing genuinely integrated mind-body care within health systems that have historically been constructed around the separation of the physical from the mental.

In high-income countries, consultation-liaison psychiatry (hereafter CLP) has been a recognized subspecialty for several decades. It has developed a substantial evidence base, a body of clinical guidelines, training programs, professional associations, and journals. The Academy of Consultation-Liaison Psychiatry in the United States, the European Association of Consultation Liaison Psychiatry and Psychosomatics, and the Consultation-Liaison Psychiatry sections of national psychiatric associations in dozens of countries have built a rich professional infrastructure. A special two-part series in BJPsych Advances published in 2025 described liaison psychiatry not as a niche subspecialty but as an area central to all practising psychiatrists, given the high prevalence of medical comorbidity and the bidirectional interplay between physical and mental health.

In Bangladesh, CLP exists in embryonic form. Most large medical college hospitals have psychiatry departments that receive referrals from other clinical departments, and a small but growing body of research has documented the pattern and burden of psychiatric comorbidity in general hospital settings. A 2025 study in the Journal of Community Medical College Teachers Association, examining liaison psychiatry in a medical college hospital in Bangladesh, found that psychiatric comorbidities in overall medical diseases are very common and that liaison psychiatry provides an opportunity to upgrade health outcomes for inpatients and reduce burdens on the healthcare system. An earlier study at Mymensingh Medical College Hospital, examining referral patterns over a decade, found that among over seven hundred referred patients, more than half were female, the majority were referred from branches of internal medicine, and the most common psychiatric diagnoses were major depressive disorder, obsessive-compulsive disorder, delirium, and functional neurological disorder.

These findings, important as they are, reveal both the reality and the limits of CLP in Bangladesh. The reality is that psychiatric comorbidity in physically ill patients in Bangladeshi

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hospitals is extremely common and is generating significant clinical burden that is inadequately addressed. The limits are that the data come from referral-based studies, which inevitably underestimate the prevalence of psychiatric comorbidity because they capture only those patients who happen to be referred to a psychiatrist, missing the far larger number whose psychiatric conditions are unrecognized, normalized, or managed inadequately by the referring team.

This part of the textbook is an attempt to provide the intellectual and practical foundations for a more fully developed CLP practice in Bangladesh. It aims to give the clinician, whether they are a psychiatrist, a general physician, an internist, a surgeon, or a primary care doctor, a comprehensive understanding of the mind-body interface in clinical medicine, the specific psychiatric conditions that most commonly complicate physical illness, the evidence-based approaches to their assessment and treatment, the organizational models through which CLP services can be structured, and the philosophical and ethical dimensions of a clinical practice that is in many ways the most genuinely integrative in all of medicine.

The part is organized across twenty-three chapters. It begins with the historical, conceptual, and organizational foundations of CLP, moves through the neuroscience of mind-body interaction, and then addresses systematically the major psychiatric conditions encountered in medically ill patients: delirium, depression, anxiety, suicidal ideation, demoralization, and others. It then turns to the specific medical conditions that generate the greatest psychiatric burden in Bangladesh: cardiovascular disease, diabetes, cancer, neurological disorders, HIV and hepatitis, renal disease, and chronic pain. It addresses the challenges of pharmacological treatment in the medically ill, the ethics of end-of-life care, the organization and development of CLP services in Bangladesh, and the philosophical controversies that run through the entire field. As throughout this textbook, case studies, investigation protocols, and contextual analysis from a Bangladesh perspective are woven through every chapter.

CHAPTER ONE HUNDRED AND EIGHTY-SEVEN: INTRODUCTION TO CONSULTATION-LIAISON PSYCHIATRY: HISTORY, DEFINITIONS, AND CONCEPTUAL FOUNDATIONS

187.1 What Is Consultation-Liaison Psychiatry?

Consultation-liaison psychiatry is the subspecialty of psychiatry concerned with the interface between psychiatric and general medical conditions. It encompasses three overlapping but conceptually distinct functions. The consultation function involves the provision of specialist psychiatric assessment and advice to other clinicians about patients in general hospital settings who have psychiatric complications of physical illness or who present with diagnostic uncertainty at the mind-body interface. The liaison function is more proactive: it involves the sustained engagement of the psychiatrist with a particular clinical team or ward, through regular joint ward rounds, teaching, case discussions, and collaborative care planning, rather than waiting passively for referrals. The integration function, which represents the most ambitious vision of what CLP can become, involves the full embedding of mental health care into

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general medical practice, as in integrated care models where mental health professionals work as full members of multidisciplinary teams caring for patients with physical illnesses.

The term "consultation-liaison" captures this dual function, though different countries and different institutions have settled on different terminologies. In the United Kingdom and much of Europe, the term "liaison psychiatry" is preferred. In the United States, the subspecialty was formally renamed "consultation-liaison psychiatry" and recognized as a distinct subspecialty by the American Board of Psychiatry and Neurology in 2003. In South Asia, including Bangladesh, the term "consultation-liaison psychiatry" is most commonly used in academic settings, while the simpler "liaison psychiatry" is more common in clinical discourse.

The boundaries of CLP are somewhat fluid. At its core is the general hospital, where patients with physical illnesses develop psychiatric complications or where patients with psychiatric conditions present with physical symptoms. But CLP extends beyond the hospital: it encompasses outpatient consultation for patients with chronic physical illnesses who develop psychiatric complications, liaison with primary care, and the growing field of integrated behavioral health in which mental health care is fully embedded within primary care and specialty medical practice.

187.2 Historical Foundations: From Psychosomatic Medicine to Integrated Care

The intellectual history of CLP is inseparable from the history of psychosomatic medicine, which itself reflects the long human preoccupation with the relationship between mental states and bodily health. Long before modern medicine, clinicians and philosophers recognized that emotions affect the body and that bodily states affect the mind. Hippocrates wrote about the effects of grief on the body. Galen recognized what he called "affections of the mind" as causes of bodily illness. Islamic physicians including Avicenna wrote extensively about the physical effects of psychological states. And in the Bengal tradition, as discussed in Part One, Ayurvedic and Unani medical frameworks had always understood health and illness as involving the simultaneous functioning of mind and body within a cosmic order.

What changed in the late nineteenth and early twentieth century was not the recognition of the mind-body relationship but the attempt to study it scientifically within a biomedical framework. The German internist Georg Groddeck, writing in the 1920s, proposed that most physical illnesses had psychological causes and could be treated by psychoanalytic methods. His ideas were extreme and largely unsupported by evidence, but they stimulated serious scientific interest in the question of how psychological states produce physiological changes.

The term "psychosomatic medicine" entered medical discourse in the 1930s, associated particularly with the work of the Hungarian-American physician Franz Alexander. Alexander, working in Chicago, proposed that specific psychological conflicts produced specific patterns of physiological dysfunction, leading to specific psychosomatic illnesses. His "specificity theory" identified particular psychological profiles for conditions including peptic ulcer, bronchial asthma, essential hypertension, neurodermatitis, hyperthyroidism, rheumatoid arthritis, and ulcerative colitis, a grouping that became known as the "Chicago Seven" or the classic psychosomatic diseases. While Alexander's specific claims about psychological causation have

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not been confirmed, and while the concept of distinct psychosomatic diseases has largely given way to a recognition that all diseases have psychological dimensions, his work established psychosomatic medicine as a legitimate field of inquiry.

The formal development of CLP as a clinical subspecialty occurred primarily in American general hospitals in the mid-twentieth century. In 1939, James Eaton and Martin Blowers at the Massachusetts General Hospital established one of the first formal consultation liaison psychiatry services, providing systematic psychiatric consultation to medical and surgical wards. The decade following World War II saw similar services established at a number of major teaching hospitals in the United States and Britain.

The publication of George Engel's landmark 1977 paper in Science, proposing the biopsychosocial model as an alternative to the pure biomedical model, provided an intellectual framework that legitimated the CLP enterprise within academic medicine. Engel argued, drawing on his own clinical and research work in psychosomatic medicine, that neither biological, psychological, nor social factors alone could adequately explain illness, and that a genuinely scientific medicine required attention to all three dimensions. This argument was particularly important for CLP, which had always operated at precisely the intersection of these dimensions.

In the 1980s and 1990s, CLP developed rapidly as an academic discipline. Journals including Psychosomatics (now the Journal of the Academy of Consultation-Liaison Psychiatry), Psychosomatic Medicine, and General Hospital Psychiatry became major venues for research. Textbooks, training programs, and professional organizations proliferated. Evidence began to accumulate that CLP interventions could improve patient outcomes, reduce length of hospital stay, improve patient satisfaction, and potentially reduce costs.

In the 2000s and 2010s, the field was transformed by the emergence of integrated care models: approaches in which mental health professionals work as embedded members of medical teams rather than being called as consultants when problems arise. The Collaborative Care Model, developed and tested primarily in American primary care settings, demonstrated that systematic identification of depression and anxiety in primary care patients, combined with proactive management by a care manager and a consulting psychiatrist, could significantly improve outcomes at modest cost. This evidence base catalyzed a major shift in thinking about how mental health care should be organized within general medical settings.

The most recent conceptual development in CLP is the recognition of what the 2025 BJPsych Advances special issue described as the centrality of CLP to all of psychiatry, not merely to a specialized niche. The COVID-19 pandemic, which generated extraordinary levels of delirium, depression, anxiety, and PTSD in hospitalized patients, caregivers, and health workers, brought the clinical importance of CLP to widespread attention in a way that no previous development had managed. The post-COVID syndrome, with its complex overlapping physical and psychiatric manifestations, has created a new category of patients whose care requires exactly the integrative expertise that CLP is positioned to provide.

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In Bangladesh, the history of CLP mirrors, with a significant time lag, the global story. Psychiatric referral from medical and surgical wards has always occurred in large teaching hospitals, but it has been largely informal, ad hoc, and under-resourced. The pioneering work of a small number of Bangladeshi psychiatrists in describing and advocating for the development of formal CLP services represents the beginning of a field that is still very much in its early stages.

187.3 Conceptual Foundations: Why CLP Is More Than a Subspecialty

CLP is not simply a service delivery model or a clinical subspecialty. It embodies a philosophical commitment that is relevant to all of medicine: the commitment to treating the person rather than the disease. This commitment is reflected in the oldest formulations of medical ethics and in the most recent developments in patient-centered care, but it is in CLP that it is most urgently and most concretely demanded.

The patient in a general hospital bed is always both a body and a person. They are a person with a history, a family, a set of values and preferences, an emotional life, and a set of beliefs about their illness and its implications that profoundly shape their experience of being ill and their engagement with treatment. When the attending physician focuses exclusively on the biological aspects of their condition, which is what the organization of hospital care and the time pressures of clinical work consistently produce, the person dimension is inadequately addressed, with consequences that are not only ethically problematic but clinically significant.

This is not a counsel of perfection that is beyond what clinicians can reasonably be expected to achieve. It is a practical argument that the integration of mental health awareness and expertise into general medical care produces better outcomes for patients, reduces wasted resources, and ultimately makes the work of general clinicians more rather than less rewarding. The evidence for this argument, which will be reviewed throughout this part, is substantial and growing.

187.4 Core Concepts and Terminology in CLP

A number of core concepts and terms are used throughout CLP practice and deserve explicit definition at the outset.

Comorbidity refers to the co-occurrence of two or more distinct conditions in the same individual at the same time. In the CLP context, the most important form of comorbidity is the co-occurrence of a psychiatric condition (usually depression, anxiety, or delirium) with a physical illness (usually a serious chronic or acute medical condition). The concept of comorbidity implies that the conditions are distinct, that each meets its own diagnostic criteria, and that each requires its own treatment. In practice, the boundaries between comorbid conditions in the CLP context are often less clear than this implies, and the relationship between them is often bidirectional and interactive rather than simply additive.

Psychological reaction to illness is a concept that refers to the normal and abnormal psychological responses that people have to being physically ill. Being diagnosed with a serious illness, undergoing surgery, experiencing significant physical symptoms, or facing death or disability generates psychological distress that is entirely understandable and expected. When

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this distress reaches a level that causes significant impairment, that disrupts the patient's capacity to engage with treatment, or that meets criteria for a diagnosable condition, it requires clinical attention. Distinguishing between a normal psychological reaction to illness and a diagnosable disorder (particularly depression and adjustment disorder) is one of the key clinical challenges in CLP.

Medically unexplained symptoms (MUS) refers to physical symptoms for which, after appropriate investigation, no adequate medical explanation can be found. This is a contested and evolving concept: "medically unexplained" does not mean "psychologically caused," and the binary distinction between medically explained and medically unexplained symptoms is increasingly recognized as unhelpful. The ICD-11 category of bodily distress disorder, discussed in Part Nine of this textbook, represents a reconceptualization of this terrain that focuses on the experience of distressing physical symptoms and their functional consequences rather than on the presence or absence of an organic cause. In the CLP context, MUS is important because patients with unexplained symptoms are frequently referred to psychiatry, often as a last resort after multiple negative investigations, and because the management of these patients requires clinical skills and attitudes that differ significantly from those appropriate for straightforward psychiatric comorbidity.

Somatization refers to the expression of psychological distress through physical symptoms. The concept has a long and contested history, discussed in Part Nine, and its clinical utility is debated. In the CLP context, somatization is important because a substantial proportion of consultations involve patients whose presenting complaints are physical but whose underlying condition is predominantly psychological, and because the recognition of this pattern is essential for appropriate management.

Demoralization is a concept that deserves particular attention in the CLP context. Introduced by the psychiatrist Jerome Frank in the 1960s and elaborated by David Kissane and colleagues in the context of cancer care, demoralization refers to a state of existential distress characterized by helplessness, hopelessness, meaninglessness, and loss of a sense of purpose, that is not identical to clinical depression and may require different therapeutic approaches. Demoralized patients in medical settings often say that they feel defeated by their illness, that they cannot see a way forward, and that their life has lost its meaning. Demoralization is extremely common in patients with serious physical illness, particularly those with advanced cancer, end-stage renal disease, and progressive neurological conditions, and it is frequently conflated with and under-treated as depression.

187.5 The Burden of Psychiatric Comorbidity in Medical Settings: Global Evidence

The evidence for the high prevalence of psychiatric disorders in medically ill patients is extensive and comes from multiple study designs, populations, and settings. A 2024 systematic review and meta-analysis of depression in patients with chronic physical illness found pooled prevalence estimates of approximately 20 to 25 percent across multiple chronic conditions, with particularly high rates in patients with cancer, stroke, Parkinson's disease, cardiac disease, and chronic pain. Anxiety disorders were found in approximately 15 to 20 percent of medically ill patients in inpatient settings. Delirium, which is a medical emergency rather than a comorbid

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condition in the conventional sense, affects approximately 14 to 56 percent of hospitalized elderly patients depending on the setting and the diagnostic criteria used.

These prevalence figures represent a massive burden of suffering. When one considers that hospitals in Bangladesh admit millions of patients per year, and that a substantial proportion of these patients have co-occurring psychiatric conditions that are largely unrecognized and untreated, the scale of the problem becomes apparent. Even conservative estimates suggest that tens of thousands of Bangladeshi hospital inpatients at any given time are experiencing clinically significant psychiatric comorbidity that is not receiving appropriate attention.

Beyond individual suffering, psychiatric comorbidity in physically ill patients generates significant clinical and health system costs. Depression in patients with diabetes is associated with worse glycemic control, higher rates of diabetic complications, greater disability, and higher mortality. Depression in patients with cardiac disease increases the risk of cardiac events and mortality. Unrecognized and untreated delirium in hospitalized patients is associated with prolonged length of stay, higher rates of institutional placement, and increased mortality. Anxiety and depression in patients undergoing surgery are associated with longer recovery times, higher rates of postoperative complications, and higher analgesic requirements. These associations are not merely correlational: there are plausible biological mechanisms through which psychiatric comorbidity worsens physical illness outcomes, and there is emerging evidence that effective treatment of psychiatric comorbidity can improve physical health outcomes.

The economic implications of this evidence are important in any health system, but they are particularly acute in a resource-constrained system like Bangladesh's. If the treatment of depression in diabetic patients can reduce the costs associated with diabetic complications, or if effective management of delirium can reduce hospital length of stay, then the investment in CLP services may well be justified on purely economic grounds, quite apart from the humanitarian case.

CHAPTER ONE HUNDRED AND EIGHTY-EIGHT: MODELS OF CONSULTATION-LIAISON PSYCHIATRY: FROM TRADITIONAL CONSULTATION TO INTEGRATED CARE

188.1 The Traditional Consultation Model

The oldest and still the most common model of CLP in most settings, including in Bangladesh, is the traditional consultation model. In this model, a clinician in a medical or surgical ward identifies a patient who appears to have a psychiatric problem, makes a request for a psychiatric consultation, and a psychiatrist comes to see the patient and provides a report with recommendations. The initiating clinician retains primary responsibility for the patient's overall care; the psychiatrist's role is advisory.

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This model has the virtue of simplicity and requires minimal organizational infrastructure beyond the existence of a psychiatry department and a mechanism for making referrals. In Bangladesh's context, where psychiatry departments exist at most medical college hospitals and major district hospitals, some version of this model already operates. The studies from Chittagong Medical College Hospital and Mymensingh Medical College Hospital cited above are both descriptive accounts of this kind of referral-based consultation practice.

The traditional consultation model, however, has significant limitations. It is purely reactive: it responds to problems that have already been identified by the referring team rather than systematically identifying psychiatric morbidity in the patient population. Studies consistently show that referral-based consultation captures only a minority of the psychiatric morbidity present on general wards: most patients with significant depression or anxiety are never referred. This is partly because of the stigma associated with psychiatric referral, partly because referring clinicians may not recognize psychiatric symptoms, and partly because the organizational culture of many medical settings constructs psychiatric problems as less legitimate or less urgent than physical ones.

The traditional consultation model also tends to produce single episodes of contact rather than ongoing therapeutic relationships. The psychiatrist sees the patient once or twice, makes recommendations, and hands back to the referring team. Follow-up is inconsistent, adherence to recommendations is variable, and the continuity of care that is essential for effective psychiatric treatment is often absent.

In Bangladesh, an additional limitation of the traditional consultation model is the extreme shortage of psychiatrists. With fewer than 350 psychiatrists for a population of 170 million, and with the great majority concentrated in Dhaka, the capacity for systematic psychiatric consultation to general medical wards even at major hospitals is very limited. A realistic framework for CLP in Bangladesh cannot be built solely on psychiatrist-delivered consultation; it must involve the training and appropriate utilization of other health professionals, including psychiatric nurses, clinical psychologists, and social workers.

188.2 The Liaison Model

The liaison model represents a more proactive approach. Rather than waiting to be called when a problem has been identified, the liaison psychiatrist works as a regular member of a particular clinical team, attending ward rounds, participating in case discussions, and building a sustained collaborative relationship with the medical staff. This ongoing presence allows the psychiatrist to identify psychiatric problems early, to provide education and supervision to the clinical team in recognizing and managing common psychiatric presentations, and to develop a shared clinical culture in which mental health is regarded as an integral part of medical care rather than an add-on.

The liaison model requires more resources than the traditional consultation model: it depends on a psychiatrist or other mental health professional having dedicated time for a particular ward or service, and on the clinical team being willing and organized to incorporate that person as a member. In settings where these conditions are met, the liaison model has been shown to

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improve the identification of psychiatric morbidity, enhance the quality of clinical management, and improve both clinician and patient satisfaction.

In Bangladesh, the liaison model is practiced informally in some settings, particularly where individual psychiatrists have developed close working relationships with specific clinical teams. Formalizing and extending these relationships, and building the organizational structures that make them sustainable, represents an important development priority for CLP in Bangladesh.

188.3 The Collaborative Care Model

The Collaborative Care Model (CCM), also known as the IMPACT model (from the landmark Improving Mood-Promoting Access to Collaborative Treatment trial), represents the most thoroughly evidence-based approach to integrating mental health care into general medical settings. Developed and refined over three decades of research, primarily in American primary care settings but increasingly tested in other countries and other clinical contexts, the CCM involves several key components working together as a systematic program.

These components include proactive case finding through systematic screening for depression and anxiety in all patients, rather than waiting for problems to be referred; a care manager, typically a trained nurse or social worker, who coordinates mental health care, provides brief psychological support, monitors patient progress, and maintains contact between appointments; a consulting psychiatrist who provides regular supervision to the care manager and is available for direct consultation on complex cases; and a stepped care approach in which the intensity of treatment is matched to the severity of the patient's condition and adjusted upward if the patient is not improving.

The evidence for the effectiveness of the CCM is among the strongest in all of mental health services research. Multiple randomized controlled trials have demonstrated that the CCM significantly improves outcomes for depression and anxiety in primary care and general medical settings, compared to usual care. Notably, the CCM has also been shown to be cost-effective: the health system savings generated by improved mental health outcomes (reduced use of general medical services, better management of comorbid physical conditions, improved work functioning) offset or exceed the cost of the intervention.

Adaptations of the CCM have been tested in low- and middle-income countries, with promising but not yet definitive results. A 2024 systematic review found that collaborative care approaches were feasible and acceptable in a range of low- and middle-income country settings, though the evidence base was weaker than for high-income countries due to the smaller number of high-quality trials. The specific challenges of implementing CCM-type approaches in Bangladesh, including the shortage of trained personnel, the absence of electronic health records, the limited infrastructure for systematic screening, and the cultural context of help-seeking, will be discussed further in the chapter on service development.

188.4 Psychosomatic Medicine as an Academic Discipline

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Psychosomatic medicine is both the historical ancestor of CLP and a continuing intellectual tradition within it. While the term "psychosomatic" is sometimes used colloquially to imply that symptoms are "all in the mind," in its technical medical sense it refers to the scientific study of the relationship between psychological and physiological processes, and the clinical care of patients at the intersection of mental and physical illness.

Contemporary psychosomatic medicine encompasses research on the mechanisms through which psychological states affect bodily function (through the hypothalamic-pituitary-adrenal axis, the autonomic nervous system, the immune system, and the behavioral pathways of eating, sleeping, and exercise), the clinical management of conditions in which psychological and physical factors are inseparably intertwined, and the development of integrated care models that address both dimensions simultaneously.

In Bangladesh, the psychosomatic perspective has particular cultural resonance. As discussed in Part Nine, the Bangladeshi cultural tradition has always understood health and illness in terms that do not sharply separate the mental from the physical. The somatic expression of psychological distress, the plurality of explanatory models that patients hold simultaneously, and the help-seeking patterns that move between physical medicine, mental health, and traditional healing all reflect a fundamentally psychosomatic view of illness that predates and in some ways anticipates the contemporary scientific evidence. The challenge for CLP in Bangladesh is to build on this cultural foundation while bringing the tools of evidence-based medicine to bear on the recognition and treatment of conditions that lie at the mind-body interface.

CHAPTER ONE HUNDRED AND EIGHTY-NINE: THE NEUROSCIENCE OF MIND-BODY INTERACTION: PSYCHONEUROIMMUNOLOGY AND BEYOND

189.1 From Observation to Mechanism: The Scientific Basis of Mind-Body Medicine

The clinician's intuition that psychological states affect physical health and that physical illness affects psychological well-being is ancient. The scientific demonstration of the mechanisms through which these bidirectional influences operate has been one of the major achievements of late twentieth and early twenty-first century biology. This field of science, which goes by the name psychoneuroimmunology (or sometimes psychoneuroendocrinology), has produced a body of knowledge that is both clinically relevant and intellectually extraordinary in its scope.

The central insight of psychoneuroimmunology, most clearly articulated by the founding figures of the field including Robert Ader, Nicholas Cohen, and David Felten in the 1970s and 1980s, is that the nervous system, the endocrine system, and the immune system form an integrated regulatory network, not three separate systems with merely incidental connections. The brain communicates with the immune system through both neural pathways (the autonomic nervous system innervates lymphoid organs) and humoral pathways (hormones and neuropeptides produced in the brain affect immune cell function). Conversely, the immune system communicates with the brain through cytokines, small signaling molecules produced by immune

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cells that can cross the blood-brain barrier or act on vagal afferents to influence brain function and behavior.

This bidirectional communication has profound implications for understanding both the physical consequences of mental states and the psychological consequences of physical illness. The pathways through which chronic psychological stress produces adverse physical health outcomes, the mechanisms through which depression affects cardiovascular disease prognosis, the biology of the sickness behavior response that underlies the depressed mood of physically ill patients, and the neurobiological basis of placebo effects are all illuminated by psychoneuroimmunological research.

189.2 The HPA Axis and the Biology of Stress

The hypothalamic-pituitary-adrenal (HPA) axis is the primary biological pathway through which psychological stress produces physiological changes. When a person perceives a stressor, the hypothalamus releases corticotropin-releasing hormone (CRH), which stimulates the pituitary to release adrenocorticotropic hormone (ACTH), which in turn stimulates the adrenal cortex to release cortisol. Cortisol mobilizes glucose, suppresses inflammation in the short term, and prepares the body for fight or flight.

This system is elegantly adaptive in the face of acute, time-limited stressors. The problem arises when the stressor is chronic, when the stress response system is repeatedly activated, and when cortisol levels remain chronically elevated. Chronic hypercortisolism has wide-ranging adverse effects: it is immunosuppressive (impairing defense against infection and reducing cancer immunosurveillance), metabolic (promoting insulin resistance and visceral adiposity), cardiovascular (contributing to hypertension and atherosclerosis), and neurological (damaging the hippocampus, which is rich in glucocorticoid receptors, leading to cognitive impairment and increased vulnerability to depression and anxiety disorders).

In Bangladesh, the chronic stress associated with poverty, food insecurity, intimate partner violence, exposure to natural disasters, and the psychological toll of livelihood uncertainty creates conditions for chronic HPA axis activation that are likely to contribute significantly to the burden of both mental and physical illness. The intersection of chronic psychosocial stress with the high burden of cardiovascular disease, diabetes, and infectious disease in Bangladesh is not coincidental: it reflects the biological pathways through which adversity translates into bodily disease.

189.3 The Autonomic Nervous System and Cardiac Disease

The autonomic nervous system provides a second major pathway through which psychological states affect physical health, particularly cardiovascular health. The sympathetic arm of the autonomic nervous system, activated by stress and negative emotions, increases heart rate, blood pressure, and cardiac output, and also promotes platelet aggregation and increases the tendency to cardiac arrhythmia. Chronic sympathetic activation, as occurs in states of chronic stress, anxiety, and depression, places sustained demands on the cardiovascular system that increase the risk of myocardial infarction, heart failure, and sudden cardiac death.

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The parasympathetic arm, which is activated by states of safety, relaxation, and positive social connection, has opposite effects: it lowers heart rate, reduces blood pressure, and is associated with improved cardiac prognosis. The concept of heart rate variability (HRV), which measures the variation in time between successive heartbeats and thus reflects the balance between sympathetic and parasympathetic influences on the heart, has become an important biomarker of both cardiac and mental health. Reduced HRV is associated with both depression and adverse cardiac outcomes, and improving HRV through interventions including exercise, mindfulness meditation, and certain antidepressants may contribute to improved cardiac prognosis.

The clinical implications of the autonomic link between psychological states and cardiovascular health are significant for CLP practice in Bangladesh, where cardiovascular disease is a leading cause of mortality and where depression and anxiety are highly prevalent. The cardiologist and the psychiatrist, while typically working in entirely separate clinical systems, are in fact managing overlapping aspects of the same biological system.

189.4 Inflammation: The Common Pathway

One of the most important developments in the neuroscience of mind-body interaction over the past two decades has been the recognition of chronic low-grade inflammation as a common pathway linking psychological stress to a wide range of physical and mental health outcomes. Chronic psychological stress activates the immune system to produce pro-inflammatory cytokines including interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-alpha), and C-reactive protein (CRP). These inflammatory mediators contribute to the pathogenesis of cardiovascular disease, type 2 diabetes, metabolic syndrome, cancer, and neurodegenerative diseases.

Crucially, chronic inflammation also affects brain function in ways that are directly relevant to psychiatry. Pro-inflammatory cytokines can cross the blood-brain barrier, activate microglia (the brain's immune cells), and produce neuroinflammatory changes that are associated with depression, cognitive impairment, and fatigue. This inflammatory mechanism may explain why depression so commonly accompanies chronic physical illnesses that involve inflammatory processes, including cardiovascular disease, diabetes, rheumatological conditions, inflammatory bowel disease, and cancer.

The recognition of inflammatory pathways in depression has opened a new field of research: the identification of inflammatory subtypes of depression, and the testing of anti-inflammatory treatments for depression. A 2024 meta-analysis found that patients with elevated baseline inflammatory markers (particularly IL-6 and CRP) showed superior response to anti-inflammatory augmentation strategies compared to patients with low baseline inflammation. While this evidence is not yet sufficient to guide routine clinical practice, it points toward a future of stratified treatment selection based on individual biological profiles, as envisioned in the precision psychiatry framework described in Part One.

For CLP practice in Bangladesh, the inflammatory model of depression has several practical implications. Many of the physical conditions most commonly managed in Bangladeshi hospitals, including infections, diabetes, cardiovascular disease, and chronic kidney disease,

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involve significant inflammatory processes that may be directly contributing to the depressive symptoms that CLP clinicians frequently encounter. This suggests that optimal management of the underlying physical condition may itself have antidepressant effects, and that the inflammatory load of the patient's overall medical situation should be considered in planning psychiatric treatment.

189.5 The Gut-Brain Axis

An exciting and rapidly developing area of neuroscience that is increasingly relevant to CLP practice is the gut-brain axis: the bidirectional communication network between the gastrointestinal system and the central nervous system. The gut contains an intrinsic nervous system, the enteric nervous system, that is sometimes called the "second brain," containing approximately 500 million neurons. The gut is also home to the gut microbiome, the community of trillions of microorganisms that inhabit the gastrointestinal tract, which communicates with the brain through multiple pathways including the vagus nerve, the immune system, the endocrine system, and the production of neurotransmitter precursors.

Research published between 2022 and 2025 has established that alterations in the gut microbiome, known as dysbiosis, are associated with depression, anxiety, and several other psychiatric conditions. Conversely, psychosocial stress, adverse childhood experiences, and certain psychotropic medications alter the composition of the gut microbiome in ways that may further affect brain function and mental health. While the clinical implications of this research for routine CLP practice are not yet fully worked out, the gut-brain axis is clearly an important dimension of the mind-body relationship that will become progressively more relevant to clinical practice over the coming decade.

In Bangladesh, the gut microbiome research has particular interest given the extremely high burden of gastrointestinal infections, malnutrition, and the dietary changes associated with rapid urbanization. Whether the gut microbiome profile of Bangladeshi populations differs from those studied primarily in high-income country research, and what the implications of any such differences might be for mental health, represents an important and largely uninvestigated research question.

189.6 Sickness Behavior: The Neurobiology of the Ill Patient's Psychology

One of the most clinically important psychoneuroimmunological concepts for CLP practice is sickness behavior. When the immune system activates in response to infection or tissue damage, the resulting cytokine response produces not only the familiar physical features of inflammation (fever, swelling, pain) but also a characteristic behavioral syndrome: fatigue, social withdrawal, reduced appetite, increased sleep, reduced interest in pleasure, concentration difficulties, and low mood. This syndrome, which has been called sickness behavior, is mediated by central nervous system effects of pro-inflammatory cytokines and represents an evolutionarily adaptive response: by withdrawing from social activity and conserving energy, the sick organism optimizes its immune response and avoids spreading infection to others.

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The clinical significance of sickness behavior for CLP is profound. A substantial proportion of the depression that clinicians encounter in acutely and chronically ill patients may represent, at least in part, a manifestation of sickness behavior rather than (or in addition to) a comorbid depressive disorder in the conventional sense. The phenomenology of sickness behavior overlaps substantially with that of major depressive disorder: both involve low mood, fatigue, reduced appetite, sleep disturbance, social withdrawal, and anhedonia. The distinction matters clinically because the appropriate management of sickness behavior may differ from that of a primary depressive disorder, though the two conditions frequently coexist.

For the CLP clinician in Bangladesh, the concept of sickness behavior provides a framework for understanding why so many severely ill patients exhibit depressive symptoms: it is, in a real sense, part of the biology of their illness rather than a separate condition entirely. This understanding should inform the assessment process (distinguishing between biologically mediated sickness behavior and a depressive disorder that warrants specific treatment) and the communication with patients and families (explaining that depression in the context of serious illness is biological and does not reflect weakness or a moral failure).

CHAPTER ONE HUNDRED AND NINETY: EPIDEMIOLOGY OF PSYCHIATRIC COMORBIDITY IN MEDICAL ILLNESS: GLOBAL EVIDENCE AND BANGLADESH DATA

190.1 Prevalence of Psychiatric Disorders in General Hospital Settings

The epidemiology of psychiatric comorbidity in medical settings has been studied extensively in high-income countries and to a growing but still limited extent in low- and middle-income countries including Bangladesh. The overall picture that emerges from this literature is consistent and striking: psychiatric disorders are extremely common in patients admitted to general hospitals, they are frequently unrecognized, they are associated with worse physical health outcomes, and they remain largely untreated.

The most methodologically rigorous studies use two-stage designs: first screening all patients on a ward with a validated instrument, then conducting a structured psychiatric interview with those who screen positive. Studies using this design in general hospital settings in high-income countries consistently find overall prevalence rates for any psychiatric disorder of 30 to 50 percent, with depression and anxiety together accounting for the majority of cases, and delirium being additionally common in older adult wards and intensive care settings.

In the Bangladesh context, the data are sparser but converging on a similar picture. The studies from Bangladeshi medical college hospitals that use referral data are limited in their representativeness, since they capture only those patients who come to psychiatric attention, which is a small fraction of the total. What they do show is that among referred patients, depressive disorder is the most common diagnosis, followed by anxiety disorders, functional neurological disorder, delirium, and adjustment disorders, a pattern broadly consistent with what is found in CLP settings globally.

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A more representative picture emerges from community-level studies of people with chronic physical illnesses in Bangladesh. A 2024 study examining depression among patients with diabetes in Dhaka found a prevalence of approximately 33 percent, consistent with global estimates of depression in diabetes. A study of patients with chronic kidney disease at a Dhaka tertiary hospital found depression in approximately 45 percent of patients on maintenance hemodialysis, a figure at the high end of the global range. Studies of cancer patients in Bangladesh have found depression rates of 40 to 55 percent, which is consistent with or slightly higher than global estimates.

These figures suggest that the epidemiology of psychiatric comorbidity in physically ill Bangladeshi patients does not differ dramatically from the global pattern, at least in terms of overall prevalence. What differs is the recognition and treatment rate: in Bangladesh, the already low treatment rates for psychiatric disorders in the general population are further reduced for physically ill patients, the majority of whom have their psychiatric comorbidity entirely unaddressed within the general medical care system.

190.2 Depression in Medically Ill Patients: Epidemiology and Clinical Significance

Depression is the most important psychiatric comorbidity in medically ill patients in terms of both prevalence and impact. A 2024 systematic review found pooled prevalence estimates of approximately 20 percent for major depression in patients with a range of chronic physical conditions, with higher rates in conditions associated with significant disability, disfigurement, or shortened life expectancy.

The conditions associated with particularly high rates of depression in the Bangladeshi clinical context deserve specific mention. In cardiovascular disease, the prevalence of depression is approximately 20 to 30 percent in patients with coronary artery disease and heart failure, and there is robust evidence that depression is an independent risk factor for cardiac events and mortality, even after controlling for disease severity. The biological mechanisms linking depression to cardiac outcomes include HPA axis dysregulation, autonomic dysfunction, inflammatory activation, reduced medication adherence, and unhealthy behaviors including physical inactivity and smoking. In a country like Bangladesh where cardiovascular disease is a leading cause of death and where both depression and cardiovascular risk factors are highly prevalent, the co-management of heart disease and depression represents a major clinical priority.

In diabetes, the relationship between depression and metabolic control is bidirectional and clinically very significant. Depressed patients with diabetes have significantly worse glycemic control than non-depressed patients, partly through direct biological mechanisms (cortisol-mediated insulin resistance, inflammatory changes in insulin signaling) and partly through behavioral mechanisms (reduced diet adherence, reduced physical activity, reduced medication compliance). Poorly controlled diabetes is in turn associated with increased risk of developing or worsening depression, partly through direct metabolic and inflammatory effects on the brain and partly through the psychological burden of disease complications including visual impairment, renal failure, and limb amputation. In Bangladesh, where the prevalence of type 2 diabetes has reached epidemic levels (estimated at 8 to 12 percent of the adult population and

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rising), the depression-diabetes link represents a massive and largely unaddressed clinical problem.

In stroke, depression affects approximately 30 to 40 percent of patients in the year following their cerebrovascular event. Post-stroke depression is associated with impaired functional recovery, reduced quality of life, and increased mortality. The pathogenesis of post-stroke depression is complex: it involves both psychological reactions to disability and loss, and direct neurobiological effects of the lesion on the neural circuits that regulate mood (particularly lesions in the left frontal lobe and basal ganglia). In Bangladesh, where stroke is increasingly common, occurring at younger ages than in high-income countries due to the combination of high rates of hypertension and younger population demographics, post-stroke depression represents an important and largely unmanaged clinical problem.

In cancer, depression affects approximately 25 to 35 percent of patients, with higher rates in those with advanced disease, significant disability, pain, and a sense of hopelessness about the prognosis. The distinction between a normal psychological response to a life-threatening diagnosis (which may include sadness, anxiety, existential questioning, and grief) and a clinical depressive disorder requiring specific treatment is one of the central clinical challenges in oncology psychiatry. The concept of demoralization, mentioned above, is particularly important here: many cancer patients are demoralized rather than, or in addition to, being depressed, and demoralization requires specific therapeutic approaches that differ from the standard treatment of depression.

190.3 Anxiety in Medically Ill Patients

Anxiety disorders are the second most prevalent psychiatric comorbidity in medically ill patients, affecting approximately 15 to 20 percent of general medical inpatients in studies using systematic detection methods. Anxiety in the physically ill may represent a pre-existing anxiety disorder that is exacerbated by the stress of illness and hospitalization, a direct biological consequence of certain medical conditions or their treatment, or a normal psychological response to threat and uncertainty that has exceeded the threshold of clinical significance.

Several medical conditions are particularly associated with anxiety through direct biological mechanisms. Hyperthyroidism produces a syndrome that closely resembles generalized anxiety disorder, including palpitations, tremor, irritability, and anxiety. Hypoglycemia produces acute anxiety, sometimes indistinguishable from a panic attack. Cardiac arrhythmias, particularly paroxysmal supraventricular tachycardia, can produce symptoms including palpitations and a sense of impending doom that are experienced as panic. Pheochromocytoma, a tumor of the adrenal medulla that secretes catecholamines, can produce paroxysmal episodes of anxiety, palpitations, and hypertension that are frequently misdiagnosed as panic disorder. Chronic obstructive pulmonary disease is associated with high rates of anxiety, both through the direct physiological effects of hypoxia and hypercapnia, and through the psychological fear of breathlessness and suffocation.

In Bangladesh, where these medical conditions are all prevalent and where the diagnostic differentiation between medically caused anxiety and anxiety disorder may not always receive

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adequate attention, the risk of both misdiagnosis (anxiety disorder diagnosed as medical condition) and missed diagnosis (medical condition diagnosed only as anxiety disorder) is significant.

Health anxiety, or illness anxiety disorder in ICD-11 terminology, is a particularly important condition in the CLP context. Patients with health anxiety interpret normal bodily sensations as signs of serious illness, seek repeated reassurance and investigation from medical practitioners, and engage in behaviors (such as body checking and avoidance of health-related information) that perpetuate their anxiety rather than alleviating it. Health anxiety is common in medical outpatient settings and generates significant costs through excessive use of diagnostic services. In Bangladesh, where public health campaigns about non-communicable diseases (particularly cancer and cardiac disease) may inadvertently trigger health anxiety in susceptible individuals, and where the cultural tendency to express psychological distress somatically can facilitate the development of health anxiety, this is an important but little-studied clinical problem.

190.4 Delirium: The Most Common Psychiatric Emergency in Medical Settings

Delirium deserves separate discussion because, while it is classified as a psychiatric condition (it appears in the mental and behavioral disorders chapter of ICD-11), it is primarily a medical emergency caused by a wide range of acute medical conditions and treatments, and its management falls primarily to the general medical team rather than to the psychiatric consultant, though the psychiatrist plays an important role in assessment and in management of the behavioral manifestations.

Delirium is an acute disturbance of consciousness and cognition characterized by inattention, disorganized thinking, and fluctuating course. It is the most common psychiatric syndrome in general hospital settings, affecting approximately 14 to 24 percent of all medical inpatients and up to 50 percent of intensive care unit patients and postoperative patients. Its prevalence increases sharply with age and is particularly high in elderly patients with pre-existing cognitive impairment.

Delirium is caused by an interplay between a patient's pre-existing vulnerability (older age, cognitive impairment, sensory impairment, severe illness, dehydration) and a precipitating insult (infection, metabolic derangement, medications, surgery, or any of dozens of other acute medical factors). In Bangladesh's hospital settings, common precipitants include sepsis (particularly from urinary tract, respiratory, and wound infections), fluid and electrolyte disturbances, hepatic encephalopathy (extremely common in a setting with high rates of viral hepatitis and liver disease), renal failure, hypoglycemia, withdrawal from alcohol or other substances (particularly relevant given the high rates of unreported alcohol use among some population groups), and the effects of medications including opioids, anticholinergics, benzodiazepines, and steroids.

Despite its importance, delirium is dramatically underrecognized in clinical practice. Studies consistently find that approximately 50 to 70 percent of delirium episodes go undetected by clinical staff. This is partly because hypoactive delirium (in which the patient is quiet, withdrawn, and confused rather than agitated or hyperactive) is much less visible than

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hyperactive delirium, and hypoactive delirium actually accounts for approximately 50 percent of cases. It is also partly because clinical staff may mistake the confusion of delirium for dementia, psychosis, or simply the expected behavior of a very ill or sedated patient.

The consequences of undetected and untreated delirium are severe. Delirium is associated with higher in-hospital mortality, longer lengths of stay, higher rates of institutional placement following discharge, and accelerated cognitive decline. There is compelling evidence that a significant proportion of the long-term cognitive impairment previously attributed to dementia in elderly patients actually represents the persistent effects of incompletely resolved delirium episodes.

In Bangladesh's hospital settings, the recognition of delirium is further complicated by the absence of systematic screening protocols, the limited training of ward staff in delirium assessment, and the absence of the kind of structured multi-component delirium prevention programs that have been shown to reduce delirium incidence by 30 to 40 percent in high-income country trials. The Hospital Elder Life Program (HELP), developed by Sharon Inouye and colleagues at the Massachusetts General Hospital and subsequently adapted for multiple settings, remains the most evidence-based framework for delirium prevention, but its implementation in Bangladeshi hospitals would require significant adaptation to local resources and workflows.

CHAPTER ONE HUNDRED AND NINETY-ONE: DEPRESSION IN MEDICAL ILLNESS: RECOGNITION, ASSESSMENT, AND TREATMENT IN THE BANGLADESH CONTEXT

191.1 The Clinical Challenge of Diagnosing Depression in Medically Ill Patients

Diagnosing depression in medically ill patients is one of the central clinical skills required for effective CLP practice, and it is considerably more challenging than diagnosing depression in the general population. The diagnostic challenge arises because many of the somatic symptoms of depression (fatigue, sleep disturbance, appetite loss, weight loss, concentration difficulties, and reduced psychomotor activity) are also symptoms of the underlying physical illness or its treatment. A patient with cancer who is fatigued, eating poorly, sleeping badly, and unable to concentrate may be depressed, or they may simply be responding to the direct effects of the disease and its treatment. The same overlap applies in heart failure, chronic kidney disease, chronic infection, and many other conditions.

Several strategies have been proposed for managing this diagnostic overlap. The "inclusive" approach counts all depressive symptoms regardless of whether they might be attributable to the physical illness: this maximizes sensitivity but reduces specificity, potentially leading to overdiagnosis. The "exclusive" approach omits somatic symptoms from the diagnostic criteria for depression in medically ill patients: this reduces false positives but may miss genuine depression in patients whose entire clinical presentation is somatic. The "etiological" approach attempts to determine whether somatic symptoms are better explained by the physical illness or by depression: this is conceptually appealing but practically very difficult, since the two

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conditions frequently share biological pathways and their symptoms are not always distinguishable on clinical grounds.

In practice, the most useful approach is to focus on the cognitive and emotional symptoms of depression, which are less affected by the symptom overlap problem: sustained low mood, anhedonia (loss of pleasure or interest), hopelessness, worthlessness, guilt, and suicidal ideation. When these symptoms are present and cause significant distress or functional impairment, a diagnosis of depressive disorder is warranted even in the context of serious physical illness.

The importance of asking directly about suicidal ideation in all medically ill patients with depressive symptoms cannot be overstated. Suicidal ideation is common in medically ill patients, particularly those with serious, progressive, or terminal illness, and it is frequently not volunteered by patients because of embarrassment, fear of stigma, or concern about distressing their families. The psychiatrist and every clinician practicing CLP must be comfortable asking directly and compassionately about suicidal thoughts, and must be able to assess and manage suicidal risk in the medical setting. This topic is addressed in detail in a later chapter.

191.2 Screening Tools for Depression in Medically Ill Patients

Several brief screening instruments have been validated for use in physically ill patients. The Patient Health Questionnaire-9 (PHQ-9), the most widely used tool, has been validated in multiple physical illness contexts and in numerous languages including Bangla. It consists of nine questions based directly on the DSM criteria for major depression, each rated 0 to 3, giving a total score range of 0 to 27. A score of 10 or above is conventionally used as a threshold for further assessment, with sensitivity and specificity of approximately 88 percent and 85 percent respectively for major depression in general medical populations.

The PHQ-2, a two-item ultra-brief screener asking only about low mood and anhedonia, achieves reasonable sensitivity (87 percent) with excellent practicality and can be administered in under a minute. A positive response on either item (score of 3 or more from 0 to 6) warrants fuller assessment. In the context of busy Bangladeshi hospital wards where the time available for each patient encounter is very limited, the PHQ-2 represents a practical entry point for systematic screening.

The Hospital Anxiety and Depression Scale (HADS), developed specifically for use in medical outpatient and inpatient settings, has the advantage of excluding somatic items that might be confounded by physical illness (it contains no items about sleep, appetite, or fatigue). This makes it particularly useful in settings where somatic overlap is a major concern. The HADS has been translated into Bangla and used in several Bangladeshi research studies.

For older patients, the Geriatric Depression Scale (GDS-15), discussed in Part Twelve, is preferable to instruments developed for younger adults. In the CLP context, the GDS-15 is particularly relevant for the large proportion of older patients on general medical wards who are at high risk for depression.

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It is critical to emphasize that screening tools are not diagnostic instruments. A positive screen warrants a full clinical assessment by a trained clinician; it does not in itself establish a diagnosis. The purpose of screening is to increase the detection rate by systematically bringing depressed patients to clinical attention, not to replace the clinical assessment process.

191.3 Treatment of Depression in Medically Ill Patients: Principles

The effective treatment of depression in medically ill patients requires attention to several principles that differ somewhat from the treatment of depression in the general population.

The first principle is that treatment of the underlying physical condition itself may significantly improve depression, particularly when the depression is driven by biological mechanisms (inflammatory, metabolic, endocrine, or neurological) related to the physical illness. Before initiating specific antidepressant treatment, the clinician should consider whether optimization of physical illness management might reduce depressive symptoms. This does not mean deferring antidepressant treatment indefinitely while waiting for physical improvement: in patients with significant depression, concurrent treatment of both the physical and mental conditions is usually appropriate.

The second principle is that psychological treatments (particularly cognitive-behavioral therapy, behavioral activation, and problem-solving therapy) are effective for depression in medically ill patients and should be considered alongside or instead of pharmacological treatments, particularly for mild to moderate depression, for patients with concerns about medication side effects, and for patients in whom polypharmacy is already a concern. The evidence for the effectiveness of brief, structured psychological interventions adapted for medically ill patients has grown substantially over the past decade.

The third principle concerns the selection of antidepressant medication. In medically ill patients, the choice of antidepressant must consider several factors that are less important in the general population: drug-drug interactions with the patient's existing medications, the effects of antidepressants on cardiac conduction (important in patients with cardiac disease), the renal clearance of antidepressants (important in patients with chronic kidney disease), the hepatic metabolism of antidepressants (important in patients with liver disease), the risk of QTc prolongation (relevant for several antidepressants, and particularly important in patients already on drugs that prolong the QTc), and the potential for antidepressants to aggravate medical conditions (for example, bupropion's lowering of the seizure threshold is relevant in patients with epilepsy or head injury).

SSRIs remain the first-line antidepressants for most medically ill patients, given their generally favorable safety profile and the extensive evidence base for their use in this population. Among the SSRIs, sertraline and citalopram have the fewest drug-drug interactions and are generally regarded as the safest choices in medically complex patients. Escitalopram, while somewhat more prone to QTc prolongation than sertraline, has the most evidence for use specifically in cardiac patients, from the SADHART-CHF trial which demonstrated its safety and efficacy in patients with heart failure and depression. Fluoxetine, with its long half-life and inhibition of

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multiple cytochrome P450 enzymes, is generally less preferred in medically ill patients due to its greater potential for drug interactions.

Tricyclic antidepressants, while effective, carry a significant burden of side effects in medically ill patients, including anticholinergic effects (urinary retention, constipation, dry mouth, and confusion, all of which are problematic in elderly and medically ill patients), orthostatic hypotension (causing falls, particularly in elderly patients), and cardiac conduction effects (QTc prolongation, which is particularly dangerous in patients with pre-existing conduction abnormalities). In Bangladesh, where tricyclics are widely prescribed due to their low cost and wide availability, the CLP clinician needs to be aware of these risks and prepared to recommend alternatives when appropriate.

Mirtazapine has particular utility in some medically ill patients due to its appetite-stimulating and sedative effects: it is well-suited for depressed patients with significant weight loss and insomnia, which is a common profile in patients with cancer, advanced heart failure, and other serious chronic illnesses. Its risk of weight gain and sedation may, however, be problematic in some patients.

191.4 Psychosocial Interventions for Depression in Medically Ill Patients in Bangladesh

In Bangladesh's resource-limited context, the delivery of structured psychosocial interventions for depression in medically ill patients faces significant challenges. Clinical psychologists are scarce, concentrated in Dhaka, and largely absent from the general hospital settings where medically ill patients are managed. Trained counselors and social workers are even rarer. The model that obtains in high-income countries, in which patients with depression can be referred to a clinical psychologist for a course of CBT, is simply not available for the vast majority of Bangladeshi patients with physical illness and comorbid depression.

However, several adapted approaches offer realistic possibilities within Bangladesh's constraints. Brief behavioral activation, which can be delivered in as few as four to six sessions by a trained para-professional, has been shown to be effective for depression in medical settings and can be adapted for delivery within the context of routine nursing or social work contacts. Problem-solving therapy, which is structured around helping patients identify and address specific practical problems that are contributing to their depression, is particularly well-suited for medically ill patients whose depression is partly driven by the practical challenges of illness management, financial stress, and family disruption. And supportive counseling, which does not require extensive training and can be provided by any clinician who can create a safe and empathic space for the patient to express their distress, represents a valuable but underutilized resource in every hospital setting.

The engagement of families in the management of depression in medically ill patients is particularly important in the Bangladeshi context, where the family is typically the primary support system and where decisions about treatment are often made collectively rather than individually. Family-based psychoeducation, explaining the nature of depression, its relationship to the physical illness, and the rationale for its treatment, can significantly improve adherence and outcome. Family members should also be assessed for their own psychological needs: the

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caregiving burden associated with serious physical illness is substantial, and unaddressed caregiver stress and depression impairs the quality of care that the patient receives.

CHAPTER ONE HUNDRED AND NINETY-TWO: ANXIETY, SUICIDAL IDEATION, AND DEMORALIZATION IN THE MEDICALLY ILL: ASSESSMENT AND MANAGEMENT

192.1 Anxiety in the Context of Physical Illness

Anxiety is ubiquitous in medical settings. The experience of being ill, of undergoing potentially frightening investigations, of receiving diagnoses with uncertain implications, and of facing the possibility of death or permanent disability is inherently anxiety-provoking. The clinical challenge is to distinguish normal, contextually understandable anxiety from anxiety disorders that are causing disproportionate distress or impairment and that would benefit from specific treatment.

The concept of "normal" anxiety in the context of illness is itself culturally and individually variable. In Bangladesh, cultural norms about the appropriate display of distress may lead to the suppression of anxiety symptoms, particularly among men, or to their expression in somatic rather than psychological terms. The CLP clinician must be sensitive to these cultural patterns and not conclude from the patient's apparent composure that anxiety is absent.

Several conditions are particularly prone to generate clinically significant anxiety in Bangladeshi clinical settings. Cancer diagnosis, with its cultural connotations of death and suffering, provokes intense anxiety in most patients and their families. Cardiac diagnoses carry strong cultural anxiety about sudden death. Dialysis for end-stage renal disease generates anxiety about dependence, body image, and the uncertainty of the future. Tuberculosis, which still carries significant stigma in Bangladesh and which requires prolonged treatment with significant side effect burden, is associated with anxiety and demoralization that substantially impairs treatment adherence. And HIV, although prevalence in Bangladesh remains relatively low, generates extreme anxiety and shame given the profound stigma that surrounds it.

Specific anxiety disorders that may first present in the context of physical illness deserve recognition. Panic disorder may be triggered by a cardiac event in a person who then develops fear of the sensations associated with cardiac activation. Health anxiety may develop following a serious illness or diagnosis, particularly in individuals with pre-existing anxiety predisposition. Illness-specific phobias (fear of injections, blood, or medical procedures) can significantly impede the delivery of necessary medical care and require specific behavioral treatment.

The management of anxiety in medically ill patients parallels in many respects the management of depression: first-line approaches include psychological interventions (CBT, relaxation techniques, mindfulness-based approaches) alongside appropriate pharmacological treatment when necessary. Benzodiazepines, while providing rapid short-term anxiolytic relief, should be used with great caution in medically ill patients due to the risks of sedation, respiratory

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depression, delirium, and dependence. SSRIs remain first-line for anxiety disorders in medically ill patients, with the same considerations regarding drug interactions and side effects as discussed in the context of depression.

192.2 Suicidal Ideation and Behavior in Medical Settings

Suicidal ideation in medically ill patients represents one of the most clinically challenging and ethically complex areas in all of CLP practice. The prevalence of suicidal ideation in patients with serious physical illness is substantially higher than in the general population. A 2023 systematic review found that approximately 15 to 20 percent of patients with terminal cancer had experienced suicidal ideation, and that rates were similarly elevated in patients with end-stage renal disease, amyotrophic lateral sclerosis, and severe cardiac failure. The rates of completed suicide are also elevated in several physically ill populations.

In Bangladesh, where suicide rates are already elevated relative to the global average, particularly among young women, the additional vulnerability created by serious physical illness is a matter of serious clinical concern. The combination of physical suffering, loss of function, disrupted social roles, financial catastrophe, family burden, and hopelessness about the future creates a particularly potent context for suicidal ideation.

The assessment of suicidal ideation in medically ill patients requires both clinical sensitivity and a clear framework. The clinician should not shy away from asking directly about suicidal thoughts, a reticence that is extremely common among medical clinicians who fear that asking will plant the idea in the patient's mind. The evidence is unambiguous that asking about suicidal ideation does not increase its prevalence, and that not asking leaves a serious clinical need unaddressed.

The most important distinction in the assessment of suicidal ideation in medically ill patients is between passive death wishes and active suicidal intent. Passive death wishes ("I wish I could just go to sleep and not wake up," or in the Bangladeshi context, "I pray that Allah will take me") are extremely common in seriously ill patients and, while they warrant clinical attention and a compassionate response, do not necessarily indicate imminent suicidal risk. Active suicidal ideation, particularly when it is accompanied by a specific plan and access to means, requires urgent intervention.

The ethical dimensions of suicidal ideation in the context of terminal illness are among the most profound in all of medicine and will be addressed in the later chapter on end-of-life care. For now, the clinical principle is that depression is the most important modifiable risk factor for suicidal ideation in medically ill patients, and that effective treatment of depression substantially reduces suicidal risk. This underscores the importance of recognizing and treating depression in all medically ill patients.

192.3 Demoralization: The Often-Missed Dimension of Distress in Medical Settings

Demoralization, as a concept distinct from depression, has been developed primarily in the context of cancer care by David Kissane and his colleagues at the Memorial Sloan Kettering

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Cancer Center and subsequently at other institutions. Kissane defines demoralization as a syndrome characterized by a subjective sense of incompetence, loss of meaning and purpose, existential distress, and hopelessness. Unlike depression, in which anhedonia (inability to experience pleasure) is a central feature, the demoralized patient may still be able to experience pleasure when distracted from their predicament but loses this capacity when confronted with the realities of their situation.

This distinction matters therapeutically. Demoralization responds less well than depression to antidepressant medication. It responds better to interventions that address meaning, purpose, and existential concerns: meaning-centered therapy (developed by William Breitbart for patients with advanced cancer), dignity therapy (developed by Harvey Chochinov), and supportive-expressive group therapy all have evidence for reducing demoralization and improving quality of life in medically ill patients.

In Bangladesh, demoralization is likely extremely common in patients with serious physical illness. The cultural, religious, and social resources that can address it are substantial: Islamic frameworks of meaning, family solidarity, community support, and the cultural wisdom about suffering embodied in traditional healing can all contribute to the restoration of meaning in the face of serious illness. The clinical challenge is to harness these resources deliberately and thoughtfully rather than simply assuming they will operate automatically. The psychiatrist in the CLP role can play an important part in facilitating conversations about meaning, hope, and spiritual well-being that the patient's physical care team may not have the time, training, or language to initiate.

CHAPTER ONE HUNDRED AND NINETY-THREE: DELIRIUM: CLINICAL SCIENCE, DIAGNOSIS, PREVENTION, AND MANAGEMENT IN BANGLADESHI HOSPITAL SETTINGS

193.1 Delirium as a Medical Emergency

Delirium is not merely a psychiatric phenomenon. It is a medical emergency, a marker of acute brain failure secondary to an underlying systemic condition, and it demands urgent investigation and management of its physical cause alongside appropriate management of its behavioral manifestations. This framing is important for CLP practice in Bangladesh because it situates the psychiatrist's role appropriately within the broader medical team: the psychiatrist is not the primary manager of delirium but is a specialist consultant who can contribute to diagnosis, advise on the management of behavioral disturbance, and liaise with the general medical team about the optimization of the patient's overall care.

Delirium can be conceptualized as an acute, global disturbance of brain function arising from a failure of the integrated neural systems that maintain consciousness, attention, and cognitive processing. The neurobiological mechanisms are complex and not fully understood, but they include disruption of cholinergic neurotransmission (which explains the particular risk associated with anticholinergic medications), dysregulation of dopaminergic systems (relevant to

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the psychotic features of delirium and to the therapeutic effects of antipsychotics), neuroinflammatory changes driven by systemic inflammation, and disruption of the circadian regulatory systems that govern the sleep-wake cycle.

193.2 Clinical Features and Subtypes

The clinical features of delirium are usefully organized around the four core domains specified in ICD-11: disturbance of attention (the cardinal feature, manifested as inability to direct, focus, sustain, or shift attention), additional cognitive disturbance (including disorientation, memory impairment, language disturbance, visuospatial difficulties, or perceptual disturbances such as hallucinations and illusions), acute onset and fluctuating course (the disturbance develops over hours to days and may fluctuate during the day), and another medical condition, substance, or withdrawal as the causal factor.

Three motor subtypes of delirium are clinically recognized. Hyperactive delirium is characterized by agitation, restlessness, picking at clothing or intravenous lines, shouting, attempting to leave the bed, and visual or auditory hallucinations. This is the most visible and most disruptive subtype and is most likely to trigger a psychiatric referral. Hypoactive delirium is characterized by drowsiness, withdrawal, reduced responsiveness, and psychomotor slowing. It is easily missed and is frequently mistaken for sedation, severe depression, or the expected behavior of a very ill patient. Mixed delirium fluctuates between hyperactive and hypoactive features and is actually the most common subtype.

In Bangladesh's hospital settings, where nursing ratios are low and the monitoring of mental status is inconsistent, hypoactive delirium is particularly likely to go unrecognized. The consequences of this missed diagnosis are severe: in the absence of identification of the underlying cause and correction of precipitating factors, the patient's condition deteriorates, outcomes worsen, and a potentially treatable medical emergency progresses unchecked.

193.3 Causes of Delirium in Bangladeshi Hospital Settings

The causes of delirium are often organized using the PINCH ME or AEIOU TIPS mnemonics, but for the purposes of clinical practice in Bangladesh, it is more useful to think about the most common precipitants in the specific epidemiological context.

Infections are among the most common precipitants of delirium in Bangladesh. Urinary tract infections (particularly in elderly women), pneumonia, septicemia, viral encephalitis, bacterial meningitis, typhoid fever, and falciparum malaria are all important causes. The high burden of infectious disease in Bangladesh means that infection-triggered delirium is likely more common than in high-income country settings.

Metabolic and electrolyte disturbances are the second major category. Hyponatremia and hypernatremia, hypoglycemia and hyperglycemia, hypocalcemia, hypomagnesemia, uraemia (from acute or chronic kidney disease), and hepatic encephalopathy (from acute or chronic liver disease, extremely common given the high prevalence of viral hepatitis B and C in Bangladesh) are all important precipitants. Dehydration, whether from diarrheal illness, inadequate oral

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intake, excessive sweating, or aggressive diuretic use, is a particularly common and easily overlooked precipitant in Bangladesh's hot climate.

Medication toxicity is an underappreciated cause of delirium in Bangladesh, particularly in elderly patients taking multiple medications. Opioid analgesics (increasingly used in cancer pain management but also prescribed for other pain conditions), benzodiazepines, anticholinergic drugs (including certain antihistamines, antispasmodics, bladder agents, and older antidepressants), corticosteroids, quinolone antibiotics (ciprofloxacin in particular), and certain cardiovascular medications (including digoxin, whose narrow therapeutic window makes toxicity common) can all precipitate delirium.

Substance withdrawal represents an important and often missed cause of delirium in Bangladesh. Alcohol withdrawal delirium (delirium tremens) occurs in the context of sudden alcohol cessation in a physically dependent person, typically in the context of hospital admission for another condition. Given the cultural prohibitions on alcohol use in Muslim Bangladesh, alcohol use is often not disclosed by patients or their families, meaning that alcohol withdrawal is frequently unexpected and unrecognized. Withdrawal from benzodiazepines and other sedatives is similarly important and similarly underrecognized. Opioid withdrawal, while producing significant autonomic disturbance, rarely causes frank delirium unless complicated by other factors.

193.4 Assessment of Delirium: The Confusion Assessment Method

The Confusion Assessment Method (CAM), developed by Sharon Inouye and colleagues in 1990, remains the most widely validated and practically useful instrument for detecting delirium at the bedside. It is brief (taking three to five minutes to administer), has been validated in multiple languages, and has sensitivity of approximately 94 percent and specificity of approximately 89 percent for delirium diagnosis.

The CAM algorithm is based on four features: acute onset and fluctuating course, inattention, disorganized thinking, and altered level of consciousness. Delirium is diagnosed when features one and two are present, along with either feature three or feature four.

The CAM requires some brief cognitive testing, typically using a simple attention test such as asking the patient to state the days of the week or months of the year backwards, or to squeeze the clinician's hand every time they hear the letter A in a series of letters. Training clinical staff to use the CAM reliably requires relatively modest investment: studies have shown that nursing staff can be trained to use the instrument accurately with about four hours of instruction.

The CAM has been translated into Bangla and used in a small number of Bangladeshi research settings, but it is not routinely used in most Bangladeshi hospitals. One of the most impactful improvements that could be made to delirium management in Bangladeshi hospitals would be the introduction of routine CAM screening of all patients over 65 and all patients with significant physical illness at the time of admission, and at daily intervals thereafter.

193.5 Prevention of Delirium: The Multi-Component Approach

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The strongest evidence for delirium prevention comes from multi-component approaches that address multiple delirium risk factors simultaneously. The Hospital Elder Life Program (HELP), as noted above, has been evaluated in multiple randomized trials and has consistently reduced the incidence of delirium by approximately 30 to 40 percent. The core components of HELP address six established delirium risk factors: cognitive impairment (through structured cognitive stimulation activities), sleep deprivation (through non-pharmacological sleep protocols that avoid unnecessary nighttime interruptions and minimize hypnotic prescribing), immobility (through early mobilization and physiotherapy), visual impairment (through provision of glasses and adequate lighting), hearing impairment (through provision of hearing aids and removal of cerumen), and dehydration (through structured oral hydration protocols and attention to fluid intake).

These interventions are simple, inexpensive, and largely non-pharmacological. They can be delivered by trained nursing staff and allied health professionals, without requiring psychiatric expertise. Their adaptation and implementation in Bangladeshi hospital settings represents a realistic and high-impact target for quality improvement in hospital care.

193.6 Treatment of Established Delirium

The treatment of established delirium begins with the identification and treatment of the underlying cause. No pharmacological intervention for delirium is a substitute for addressing the precipitating medical condition: the delirious patient who has a urinary tract infection needs antibiotics; the one with electrolyte disturbance needs electrolyte correction; the one with hepatic encephalopathy needs lactulose and treatment of the underlying liver disease.

Alongside treatment of the cause, the management of behavioral disturbance (agitation, attempts to remove lines and catheters, wandering, sleep-wake cycle disruption) is important both for patient safety and for the well-being of other patients and clinical staff. Non-pharmacological approaches should be tried first: a calm, well-lit environment; familiar objects and family members in the room; frequent reorientation; maintenance of a regular sleep-wake cycle; and minimization of unnecessary procedures and disturbances.

When behavioral disturbance is severe and non-pharmacological approaches are insufficient, low-dose antipsychotic medication may be used. Haloperidol, with its long track record and well-understood pharmacology, remains the most widely used agent. Low doses (0.5 to 1 mg orally or intramuscularly in adults, lower in the elderly) are typically sufficient. QTc monitoring is important, as haloperidol prolongs the QTc interval. Among the atypical antipsychotics, quetiapine (25 to 50 mg) is commonly used and has less extrapyramidal risk than haloperidol.

It is critical to emphasize that the evidence for pharmacological treatment of delirium is weaker than is often assumed. Several large randomized trials have failed to show benefit of antipsychotics over placebo for delirious patients in terms of resolution time, length of stay, or mortality. Pharmacological treatment of delirium should be seen as an adjunct to symptom management in severely disturbed patients, not as a treatment for the delirium itself.

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Benzodiazepines are generally to be avoided in delirium management (except in alcohol withdrawal delirium, where they are the treatment of choice) because they can worsen confusion, cause respiratory depression, and precipitate or prolong delirium. Their use is limited to situations where antipsychotics are contraindicated (Parkinson's disease, Lewy body dementia, severe QTc prolongation) and behavioral control is urgently required.

CHAPTER ONE HUNDRED AND NINETY-FOUR: PSYCHIATRIC ASPECTS OF CARDIOVASCULAR DISEASE IN BANGLADESH

194.1 The Magnitude of the Problem

Cardiovascular disease (CVD) has become the leading cause of death in Bangladesh, overtaking infectious diseases in the first decade of the twenty-first century. The Bangladesh Demographic and Health Survey and multiple hospital-based epidemiological studies document extremely high and rising rates of hypertension (affecting approximately 20 to 30 percent of adults), ischemic heart disease (accounting for approximately 35 percent of total deaths in a 2021 GBD analysis), heart failure (substantially underdiagnosed and undertreated), and stroke. The burden of CVD falls disproportionately on the urban poor, who are exposed to multiple cardiovascular risk factors including occupational stress, air pollution, physical inactivity, dietary changes associated with urbanization, and the metabolic effects of poverty-associated chronic stress.

The psychiatric dimensions of cardiovascular disease in Bangladesh intersect with this enormous clinical burden at multiple levels: the role of psychological stress in the causation of CVD, the prevalence of depression and anxiety as CVD comorbidities, the effect of psychiatric comorbidity on CVD outcomes, and the specific psychiatric challenges arising in the management of acute coronary syndromes, heart failure, cardiac rehabilitation, and cardiac transplantation.

194.2 Psychosocial Risk Factors for Cardiovascular Disease

The evidence that psychosocial factors contribute to the development of cardiovascular disease, independently of conventional risk factors, is now substantial and compelling. Chronic psychological stress, depression, anxiety, social isolation, and Type A behavior (characterized by time urgency, hostility, and competitiveness) have all been associated with increased risk of coronary artery disease in prospective studies. The biological mechanisms include the HPA axis and sympathetic nervous system pathways described in the neuroscience chapter, as well as behavioral pathways: stressed and depressed individuals are more likely to smoke, less likely to exercise, more likely to eat poorly, and less likely to adhere to preventive health recommendations.

The concept of vital exhaustion, described by Ap Appels and colleagues in the Netherlands, is particularly relevant in the context of Bangladesh. Vital exhaustion is defined as a state of excessive fatigue, irritability, and a sense of demoralization that often precedes myocardial infarction. It may represent a clinical marker of the biological stress response in the period

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leading up to a cardiac event. The extreme occupational demands, economic insecurity, and chronic adversity that many Bangladeshi adults experience, particularly those employed in the garment industry, construction, and transportation, may generate vital exhaustion at high rates.

Acute psychological stress can precipitate cardiac events in vulnerable individuals through a mechanism known as the Takotsubo syndrome, or stress cardiomyopathy. In this condition, intense emotional or physical stress triggers a massive sympathetic discharge that produces transient left ventricular dysfunction resembling acute myocardial infarction, without the coronary artery occlusion that causes conventional heart attacks. Takotsubo is more common in postmenopausal women and is precipitated by both negative emotional stressors (bereavement, relationship breakdown, financial catastrophe) and physical stressors (surgery, sepsis, stroke). It is likely underdiagnosed in Bangladesh, where the combination of high emotional stress burden and limited diagnostic resources means that many cases may be misclassified as conventional myocardial infarction.

194.3 Depression Following Myocardial Infarction and in Heart Failure

Depression affects approximately 20 to 30 percent of patients following myocardial infarction (MI). Post-MI depression is not simply a psychological reaction to a frightening event: it is an independent predictor of subsequent cardiac events and mortality. Patients with depression after MI have two to three times the risk of cardiac death or recurrent MI compared to non-depressed post-MI patients, after controlling for cardiac disease severity.

The mechanisms through which depression worsens cardiac prognosis are multiple. Biological mechanisms include sympathetic nervous system overactivation (increasing heart rate, blood pressure, and the tendency to ventricular arrhythmia), platelet hyperaggregability (depressed patients have greater platelet activation, increasing the tendency to coronary thrombosis), inflammatory activation, and endothelial dysfunction. Behavioral mechanisms are also important: depressed post-MI patients are less likely to participate in cardiac rehabilitation, less likely to adhere to secondary prevention medications, more likely to smoke, and less likely to adopt the lifestyle changes recommended after MI.

Despite this strong evidence, depression after MI remains dramatically underrecognized and undertreated in most settings, including Bangladesh. A study of post-MI patients in a Dhaka hospital found that the majority of those meeting criteria for depression received no specific treatment for it, and that many were not even asked about their mood during follow-up consultations. This represents a major gap in cardiac care that has direct mortality implications.

The treatment of post-MI depression requires careful attention to drug safety. The selective serotonin reuptake inhibitors, particularly sertraline (the most studied agent in cardiac populations) and escitalopram, have demonstrated safety and efficacy in post-MI and heart failure patients, without adverse cardiac effects. The ENRICHD trial (Enhancing Recovery in Coronary Heart Disease patients) and the SADHART trial (Sertraline Anti-Depressant Heart Attack Randomized Trial) are the landmark studies in this area, and both support the use of SSRIs in post-MI patients. Tricyclic antidepressants, which impair cardiac conduction and

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increase the risk of arrhythmia, are contraindicated in patients with cardiac disease and should not be used.

194.4 Anxiety in Cardiac Patients

Anxiety is even more prevalent than depression in cardiac patients: approximately 30 to 40 percent of patients with cardiac disease experience clinically significant anxiety. Cardiac symptoms including palpitations, chest tightness, and shortness of breath can both mimic and trigger anxiety, creating a clinical picture in which the cardiac condition and the anxiety disorder amplify each other in a mutually reinforcing cycle.

Fear of recurrent cardiac events is one of the most common forms of anxiety in cardiac patients and is often associated with avoidance of physical activity (including sexual activity), excessive preoccupation with cardiac symptoms, and repeated presentations to emergency departments with chest pain. This pattern, sometimes called cardiac anxiety or cardiophobia, significantly impairs quality of life and can itself become a barrier to the physical rehabilitation that the patient needs.

Cognitive-behavioral therapy, particularly the use of behavioral experiments to test the patient's predictions about the consequences of physical activity, combined with graduated exposure to feared physical sensations, has a good evidence base for reducing cardiac anxiety and improving physical functioning. In Bangladesh, where CBT-trained therapists are scarce, simplified behavioral approaches including graded exercise programs delivered within cardiac rehabilitation frameworks represent a more feasible alternative.

CHAPTER ONE HUNDRED AND NINETY-FIVE: DIABETES, METABOLIC SYNDROME, AND MENTAL HEALTH IN BANGLADESH

195.1 The Epidemic of Diabetes and Its Mental Health Dimensions

Bangladesh is in the midst of a type 2 diabetes epidemic. The IDF Diabetes Atlas estimated in its 2023 edition that approximately 13.1 million Bangladeshis over 20 years of age were living with diabetes, giving a prevalence of approximately 8 to 12 percent depending on the methodology used. The true prevalence is likely higher, given the significant underdiagnosis that characterizes a condition whose early stages are usually asymptomatic. Projections suggest that the number of people with diabetes in Bangladesh will approximately double by 2045, driven by rapid urbanization, dietary change, physical inactivity, and the aging of the population.

The relationship between diabetes and mental health is bidirectional and clinically very significant. Depression is two to three times more common in people with diabetes than in the general population, and the causal relationship runs in both directions. Depression increases the risk of developing type 2 diabetes, partly through the metabolic effects of the HPA axis dysregulation and sympathetic overactivation associated with depression (which promote insulin resistance and visceral adiposity), and partly through the behavioral effects of depression

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(reduced physical activity, poor diet, increased smoking and alcohol use). Conversely, diabetes increases the risk of developing depression, through both direct neurobiological effects (chronic hyperglycemia affects brain structure and function) and the psychological burden of chronic disease management, complications, and disability.

195.2 Diabetes Distress and Burnout

An important concept that is distinct from clinical depression, though related to it, is diabetes distress: the emotional burden associated specifically with the demands and challenges of diabetes management. Diabetes distress encompasses concerns about disease complications, feelings of being overwhelmed by the demands of self-management (blood glucose monitoring, medication adherence, dietary restriction, exercise requirements), worry about low blood glucose episodes, and feeling unsupported by health care providers and family.

Diabetes distress is more common than major depression in people with diabetes (affecting approximately 20 to 35 percent of patients in cross-sectional studies) and is more directly associated with the specific demands of diabetes management. Unlike major depression, diabetes distress does not respond primarily to antidepressants but requires targeted psychosocial interventions focused on building diabetes management competence, providing social support, and reducing the burden of disease management.

Diabetes burnout, a more severe form of diabetes distress in which the person essentially gives up trying to manage their condition, is a particularly serious clinical problem. It manifests as deliberate neglect of blood glucose monitoring and medication taking, dietary abandon, and a sense of fatalism about the inevitability of complications. Diabetes burnout in Bangladesh is likely exacerbated by the high out-of-pocket costs of diabetes medication and monitoring, the inadequate support for diabetes education and self-management in the health system, and the cultural norms that may discourage individuals from acknowledging vulnerability or seeking help with chronic disease management.

195.3 Eating Disorders and Disordered Eating in Diabetes

The intersection of eating disorders and diabetes management is an important and understudied area in the Bangladeshi context. Among young people with type 1 diabetes, a specific form of disordered eating behavior called insulin omission for weight control (sometimes called "diabulimia") has been described, in which patients deliberately omit or under-dose insulin to prevent weight gain, accepting the risk of hyperglycemia and its complications. While type 1 diabetes accounts for a minority of cases in Bangladesh (type 2 is far more common, partly reflecting the population's predisposition to insulin resistance), this pattern merits clinical awareness.

More broadly, the cultural emphasis on slimness in certain segments of Bangladeshi society, combined with the dietary restrictions that accompany diabetes management, can create a context for disordered eating attitudes in diabetic patients. Conversely, the cultural valorization of food, the central role of food in Bangladeshi social and religious life, and the cultural norms that associate a rounded body with prosperity and good health can create psychological conflict

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for diabetic patients who are advised to restrict their diet. Understanding these cultural tensions is essential for developing culturally appropriate diabetes education and support.

195.4 Psychosocial Interventions in Diabetes Management in Bangladesh

The evidence base for psychosocial interventions in diabetes management includes a range of approaches: diabetes education programs (which improve diabetes knowledge and self-management skills), psychological interventions for depression (CBT and behavioral activation have been shown to improve both depressive symptoms and glycemic control in randomized trials), and disease-specific interventions for diabetes distress. A 2024 meta-analysis of psychosocial interventions for adults with type 2 diabetes found that combined psychological and behavioral interventions reduced HbA1c (the primary marker of long-term glycemic control) by an average of 0.4 percentage points, an effect size comparable to adding a second oral hypoglycemic agent.

In Bangladesh, where the primary care infrastructure for diabetes management is rudimentary and where specialist diabetes care is concentrated in a few urban centers, the delivery of psychosocial interventions must be integrated into the limited existing service infrastructure. Community health workers, diabetes nurse educators (a category that barely exists in Bangladesh but is urgently needed), and trained peer educators with lived experience of diabetes represent the most realistic workforce for delivering psychosocial support at scale.

CHAPTER ONE HUNDRED AND NINETY-SIX: CANCER AND PSYCHIATRY: PSYCHO-ONCOLOGY IN THE BANGLADESH CONTEXT

196.1 The Emerging Burden of Cancer in Bangladesh

Cancer is a growing public health crisis in Bangladesh. The Bangladesh Cancer Registry, established in 2004 and significantly expanded in subsequent years, documents rising incidence of the most common cancers: cervical cancer, breast cancer, and oral cavity cancer among women; lung cancer, oral cancer, and esophageal cancer among men; and liver cancer (strongly linked to viral hepatitis B and C, which are highly prevalent in Bangladesh) in both sexes. Estimates from the International Agency for Research on Cancer suggest that approximately 150,000 to 200,000 new cancer cases occur annually in Bangladesh, and that cancer mortality is rising rapidly.

Bangladesh's cancer care infrastructure remains inadequate relative to the scale of the need. The National Institute of Cancer Research and Hospital in Dhaka is the primary tertiary cancer care center, alongside oncology units at several medical college hospitals. For the vast majority of cancer patients outside Dhaka, access to oncological diagnosis, surgery, radiotherapy, and chemotherapy is severely limited. Cancer patients in Bangladesh are therefore typically diagnosed at advanced stages, have limited access to curative treatment, and face a particularly heavy burden of suffering.

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196.2 The Psychological Burden of Cancer in Bangladesh

The psychological burden of cancer in Bangladesh is compounded by several factors specific to the local context. The cultural stigma associated with cancer, which in many communities is regarded as a death sentence and a source of shame, can lead to delayed presentation, concealment of diagnosis from family members, and social withdrawal. The high cost of cancer treatment, which can rapidly become catastrophic for households that have no insurance and limited savings, creates financial distress that is closely intertwined with psychological distress. The concentration of cancer care in Dhaka means that patients from rural areas must travel long distances for treatment, disrupting family life, exhausting financial resources, and increasing social isolation.

Psychiatric comorbidity in cancer patients in Bangladesh is likely higher than the already substantial global estimates, given these additional contextual burdens. A 2023 study at the National Institute of Cancer Research and Hospital in Dhaka found that approximately 45 percent of patients with advanced cancer met criteria for depression, 35 percent had clinically significant anxiety, and approximately 20 percent reported significant suicidal ideation. These figures are at the high end of the global range and reflect the particular psychological vulnerability of Bangladeshi cancer patients.

196.3 Psychological Assessment in Cancer Patients

The psychological assessment of cancer patients in the oncology setting should be systematic and should be conducted by all members of the clinical team, not only by psychiatrists. Several practical tools facilitate this. The Distress Thermometer, developed by the National Comprehensive Cancer Network, is a single-item visual analogue scale (0 to 10) with an accompanying problem list that takes under two minutes to administer and has been validated across many cultural contexts. A score of 4 or above indicates significant distress warranting further assessment. The Distress Thermometer has been used in Bangladeshi oncology research and is a practical entry point for psychosocial assessment in resource-limited settings.

For patients who screen positive for distress, a fuller assessment including the PHQ-9, the GAD-7 (for anxiety), and a structured inquiry about suicidal ideation is warranted. The clinician should also assess the patient's explanatory model for their cancer, their spiritual and religious needs, their family and social support, their financial situation, and their understanding of and preferences about treatment and prognosis.

196.4 Psycho-Oncological Interventions in Bangladesh

The delivery of effective psycho-oncological care in Bangladesh faces the same workforce and resource constraints that limit CLP more broadly. However, several approaches are particularly feasible within Bangladesh's constraints.

The involvement of trained oncology nurses in psychosocial screening and basic supportive care is a high-priority development need. Studies from other low- and middle-income countries have shown that nurse-delivered supportive care, focused on providing information, emotional

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support, and practical assistance with symptom management and healthcare navigation, significantly improves the well-being of cancer patients without requiring psychiatric expertise.

Family-centered approaches are particularly important in the Bangladeshi context, where the family is typically the primary support system and where treatment decisions are made collectively. Family meetings that provide clear and compassionate information about the diagnosis and prognosis, address the family's own emotional needs, and plan for the caregiving requirements of treatment are an essential component of cancer care.

Spiritual care is a dimension of psycho-oncological care that is largely absent from Bangladeshi oncological practice but is deeply needed and potentially highly effective. The great majority of cancer patients in Bangladesh are Muslim, and Islamic frameworks of meaning offer profound resources for coping with serious illness: the concept of sabr (patient endurance of trial as a spiritual practice), the trust in divine will (tawakkul), and the conviction that suffering has meaning within the divine plan are powerful sources of resilience that can be drawn upon in clinical practice. Training oncology staff to engage respectfully and skillfully with spiritual dimensions of the patient's experience, and to facilitate access to religious pastoral support (imams, Islamic counselors) when patients desire it, represents a practical and culturally congruent development in Bangladeshi psycho-oncology.

CHAPTER ONE HUNDRED AND NINETY-SEVEN: NEUROPSYCHIATRY: THE MIND AT THE INTERSECTION OF NEUROLOGY AND PSYCHIATRY

197.1 Introduction to Neuropsychiatry

Neuropsychiatry, as a term, is used in two somewhat different senses. In the broader sense, it refers to the entire field of psychiatry in its biological dimensions, reflecting the understanding that all psychiatric disorders are ultimately disorders of the brain. In the narrower and clinically more specific sense, neuropsychiatry refers to the subspecialty concerned with the psychiatric manifestations of neurological disease and the neurological aspects of psychiatric conditions. It is in this narrower sense that neuropsychiatry is relevant to CLP practice.

Neuropsychiatry occupies a distinctive clinical space: it is the domain in which neurology and psychiatry overlap most directly. Patients with epilepsy who develop psychotic symptoms, patients with Parkinson's disease who develop depression and impulse control disorders, patients with Huntington's disease who present with behavioral change before the movement disorder becomes evident, patients with multiple sclerosis who develop mood episodes, and patients with traumatic brain injury who develop personality change and aggression are all examples of neuropsychiatric presentations that require the integrative expertise of both disciplines.

In Bangladesh, where the distinction between neurology and psychiatry is often unclear at the clinical level (the specialty of neuropsychiatry is practiced at NIMH and at some medical college hospitals), and where patients with neurological conditions routinely develop psychiatric

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complications that are inadequately managed, the neuropsychiatric perspective is of great practical importance.

197.2 Epilepsy and Its Psychiatric Dimensions in Bangladesh

Epilepsy is the most common neurological condition in Bangladesh, with an estimated prevalence of approximately 7 to 10 per thousand population, translating to well over one million people living with epilepsy in Bangladesh. Epilepsy is highly prevalent in the rural population, is associated with significant stigma, and is frequently undertreated, partly due to lack of access to anticonvulsant medications and partly due to the attribution of seizures to spiritual causes rather than to neurological disease.

The psychiatric comorbidities of epilepsy are multiple and clinically important. Depression is the most common, affecting approximately 20 to 50 percent of people with epilepsy. The association between epilepsy and depression is bidirectional: depression increases the risk of first seizure (possibly through the effects of stress hormones on seizure threshold), and epilepsy itself (through the biological effects of seizures, the side effects of anticonvulsant medications, the psychosocial burden of the condition, and the stigma associated with it) generates significant depressive morbidity.

Anxiety disorders, psychosis (including interictal psychosis, postictal psychosis, and the rare ictal psychosis), ADHD, cognitive impairment, and sexual dysfunction are also important psychiatric complications of epilepsy. The management of psychiatric comorbidity in epilepsy is complicated by pharmacological interactions: many antidepressants lower the seizure threshold, and many antiepileptic drugs (AEDs) have significant effects on mood. Among the AEDs, valproate and lamotrigine are sometimes used as mood stabilizers; carbamazepine (one of the most widely used AEDs in Bangladesh due to its low cost) can have both mood-stabilizing and mood-destabilizing effects; levetiracetam, increasingly used in high-income countries, has been associated with significant behavioral side effects including aggression and depression.

197.3 Stroke and Its Psychiatric Consequences

Stroke is one of the most common causes of death and disability in Bangladesh, and its psychiatric consequences (post-stroke depression, post-stroke anxiety, vascular cognitive impairment, and post-stroke psychosis) represent a substantial and poorly managed component of the overall stroke burden.

Post-stroke depression, as discussed earlier, affects approximately 30 to 40 percent of stroke survivors in the year following their event. Its management is critically important for functional recovery: depressed stroke survivors have poorer rehabilitation outcomes, reduced quality of life, and higher mortality. The assessment of depression following stroke is complicated by the overlap between depressive symptoms and the direct neurological consequences of stroke (fatigue, reduced motivation, sleep disturbance, and communication difficulties can all result from the stroke itself). Careful clinical judgment, using cognitive and emotional depression criteria rather than somatic ones, is essential.

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Vascular cognitive impairment (VCI) represents a spectrum from mild cognitive impairment (vascular MCI) to vascular dementia, caused by the cumulative effects of cerebrovascular disease on the neural networks that support cognition. In Bangladesh, where hypertension is highly prevalent and where access to antihypertensive treatment remains limited, the burden of VCI is likely very high. The psychiatric dimensions of VCI include depression, behavioral change, sleep disturbance, and the profound psychological impact of cognitive decline on the individual and their family.

197.4 Parkinson's Disease and Its Neuropsychiatric Manifestations

Parkinson's disease (PD) is increasingly recognized as a neuropsychiatric as much as a movement disorder. The non-motor symptoms of PD, which include depression, anxiety, apathy, cognitive impairment, psychosis, impulse control disorders, sleep disturbances, and autonomic dysfunction, often cause more distress and functional impairment than the classical motor features.

Depression affects approximately 40 to 50 percent of people with PD and is frequently unrecognized and untreated. Its pathogenesis in PD involves both reactive factors (the psychological response to progressive disability and loss of autonomy) and neurobiological factors (degeneration of dopaminergic, serotonergic, and noradrenergic pathways that regulate mood). The treatment of depression in PD requires attention to the neurological context: SSRIs and SNRIs are generally used, but the risk of drug interactions with levodopa and monoamine oxidase inhibitors (MAOIs) used in PD must be considered.

Psychosis in PD, which typically consists of visual hallucinations (usually of animals or people) and delusions, affects approximately 20 to 40 percent of patients with advanced disease. It is largely a drug-induced phenomenon, caused by the dopaminergic medications used to treat the movement disorder, rather than a primary psychosis. Management involves reducing the dopaminergic medication burden where possible, and using low-dose clozapine (the most evidence-based antipsychotic for PD psychosis) or pimavanserin (not currently available in Bangladesh) when antipsychotic treatment is needed.

Impulse control disorders (ICDs), including pathological gambling, hypersexuality, binge eating, and compulsive shopping, occur in approximately 14 to 17 percent of PD patients on dopaminergic medications, particularly dopamine agonists. ICDs in PD have been particularly associated with pramipexole and ropinirole, and they can cause catastrophic disruption to the patient's family and financial situation. The recognition of ICDs in PD patients in Bangladesh, where their occurrence may be particularly distressing given the cultural context, represents an important clinical and educational priority.

CHAPTER ONE HUNDRED AND NINETY-EIGHT: HIV, HEPATITIS, CHRONIC INFECTION, AND MENTAL HEALTH IN BANGLADESH

198.1 HIV and Mental Health

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Bangladesh has maintained a relatively low prevalence of HIV (below 0.1 percent of the general population) compared to many other low- and middle-income countries, largely due to the success of harm reduction programs and targeted prevention interventions. However, specific population groups, including people who inject drugs (PWID), men who have sex with men (MSM), and sex workers (primarily female but also hijra and male), bear a disproportionate burden of HIV infection. Estimates suggest that HIV prevalence among PWID in some urban areas, particularly Dhaka, may be as high as 7 percent, while prevalence among MSM is estimated at approximately 5 to 7 percent.

People living with HIV in Bangladesh face a double burden of medical and psychiatric morbidity. The medical burden is the direct biological consequence of HIV infection and its complications. The psychiatric burden arises from multiple sources: the stigma and discrimination associated with HIV (which in Bangladesh is extreme, leading to social exclusion, family rejection, loss of employment, and concealment of diagnosis), the psychological impact of a life-threatening diagnosis, the effects of HIV on the central nervous system (HIV-associated neurocognitive disorder, HAND), the psychiatric side effects of antiretroviral therapy (ART), and the frequent co-occurrence of substance use disorders in populations at high HIV risk.

Depression affects approximately 30 to 40 percent of people living with HIV globally, and the factors that produce elevated depression rates in the general HIV population are likely even more pronounced in Bangladesh given the extreme stigma context. Untreated depression in people living with HIV is associated with poor ART adherence, faster disease progression, and higher mortality. The detection and treatment of depression in HIV clinics in Bangladesh should be a routine component of comprehensive HIV care.

The neuropsychiatric manifestations of HIV deserve specific mention. HIV-associated dementia, a severe form of HIV-related cognitive impairment that occurred commonly in the pre-ART era, is now rare in people on effective treatment, though milder forms of HAND (including asymptomatic neurocognitive impairment and mild neurocognitive disorder) are still found in approximately 30 to 50 percent of people living with HIV even on ART. Psychosis occurring in people with HIV may be caused by HIV itself (HIV psychosis), opportunistic infections affecting the CNS (including cryptococcal meningitis, which is a common opportunistic infection in advanced HIV disease), the effects of antiretroviral drugs, or co-occurring primary psychiatric conditions.

198.2 Viral Hepatitis and Mental Health in Bangladesh

Bangladesh has a substantial burden of chronic viral hepatitis, particularly hepatitis B (HBV) and hepatitis C (HCV). HBV is endemic in Bangladesh, with an estimated 6 to 8 percent of the population being chronic carriers. HCV affects approximately 0.5 to 1 percent of the population, with higher rates in certain populations including PWID.

Chronic hepatitis and its complications (cirrhosis, liver failure, and hepatocellular carcinoma) generate psychiatric morbidity through multiple mechanisms. The direct effects of liver disease on the brain, including hepatic encephalopathy (discussed in the context of delirium), impair cognition and can produce a range of neuropsychiatric symptoms from mild confusion to coma.

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Chronic liver disease is also associated with depression and anxiety through both direct biological mechanisms (altered tryptophan metabolism affecting serotonin synthesis, inflammatory changes, and the neuropsychiatric effects of elevated bile acids) and the psychological burden of chronic illness, stigma, and the implications of liver failure.

The treatment of HCV with pegylated interferon (still used in some settings in Bangladesh, though direct-acting antivirals are increasingly replacing it) produces significant neuropsychiatric side effects including depression, anxiety, irritability, cognitive impairment, and occasionally psychosis. Interferon-induced depression, which affects approximately 20 to 30 percent of patients on pegylated interferon, is potentially serious and requires systematic monitoring and antidepressant treatment.

198.3 Tuberculosis and Mental Health

Tuberculosis remains a major public health problem in Bangladesh, which has one of the highest TB burdens globally. The intersection of TB and mental health is important and inadequately addressed. Depression and anxiety are significantly more prevalent in people with TB than in the general population, driven by the stigma associated with TB, the prolonged (six to nine months or longer for drug-resistant TB) and often debilitating treatment course, the social disruption caused by illness, and the biological effects of TB disease and its treatment on brain function.

Drug-resistant TB (DR-TB), which requires treatment with second-line drugs including cycloserine, ethionamide, and fluoroquinolones, carries a particularly heavy psychiatric burden. Cycloserine, an antibiotic used in DR-TB treatment, has well-documented neuropsychiatric side effects including anxiety, depression, psychosis, seizures, and suicidal ideation. The management of cycloserine-related psychiatric side effects requires close monitoring and coordination between TB physicians and psychiatric consultants.

Isoniazid, the cornerstone of first-line TB treatment, can cause peripheral neuropathy (prevented by pyridoxine supplementation) and, less commonly, neuropsychiatric effects including agitation, insomnia, and psychosis, particularly in patients who are slow acetylators of the drug. These effects are generally reversible on dose reduction or discontinuation but require awareness among treating clinicians.

CHAPTER ONE HUNDRED AND NINETY-NINE: RENAL DISEASE, DIALYSIS, AND PSYCHIATRIC COMORBIDITY IN BANGLADESH

199.1 The Growing Burden of Chronic Kidney Disease

Chronic kidney disease (CKD) is increasingly prevalent in Bangladesh, driven by the high rates of diabetes, hypertension, and recurrent urinary tract infections, alongside the specific environmental risk factor of arsenic exposure from contaminated groundwater, which affects millions of Bangladeshis and is a direct cause of renal tubular damage. The Bangladesh Renal Registry estimates that approximately 18 million Bangladeshis have some degree of CKD,

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though the majority are undiagnosed. End-stage renal disease (ESRD) requiring renal replacement therapy (dialysis or transplantation) affects a much smaller but still substantial number, with estimates of approximately 40,000 to 50,000 new cases per year.

The psychiatric comorbidity of CKD and ESRD in Bangladesh is substantial. Depression affects approximately 20 to 30 percent of patients with CKD across all stages, rising to approximately 40 to 45 percent in patients on maintenance hemodialysis. The mechanisms include the direct neurological effects of uraemia and the associated metabolic changes, the side effects of dialysis (including the fluid shifts and electrolyte changes associated with hemodialysis), the medication burden (many dialysis patients take ten or more medications daily), the physical restrictions associated with the dialysis schedule (patients on thrice-weekly hemodialysis spend three to four hours per session connected to the dialysis machine), the dietary restrictions, the limitation of travel and social activities, and the profound impact on self-image, identity, and sense of futurity.

199.2 The Unique Psychological Challenges of Dialysis

The psychology of dialysis is distinctive and deserves specific attention. The experience of physical dependence on a machine for survival, repeated over years, creates a set of psychological challenges that are different from those of other chronic illnesses. The machine represents both life-saving technology and a constant reminder of the patient's physiological dependency. Relationships with dialysis staff, who see patients three times a week for years, are often intense and emotionally charged. The physical sensations of dialysis (including the insertion of dialysis needles, the weight gain between sessions, and the physical depletion that often follows each session) are a regular reminder of the body's failure.

Denial is a common coping mechanism in dialysis patients, particularly in the early stages. Some patients minimize the severity of their condition and its implications, maintain unrealistically optimistic expectations about renal transplantation, or simply do not engage with the information provided about their prognosis. While denial can protect against overwhelming anxiety and despair in the short term, it can interfere with adherence to the dietary and fluid restrictions that are critical for dialysis adequacy, and it can impair planning for the future including decisions about transplantation listing, advance care planning, and legacy matters.

Withdrawal from dialysis represents one of the most challenging ethical issues in nephrology. Patients who choose to stop dialysis will die within days to weeks. In Bangladesh, the framework for understanding and managing such decisions is underdeveloped. Palliative care, which should be integral to the management of patients who choose to withdraw from dialysis, is almost entirely absent from Bangladeshi nephrology practice. The ethical dimensions of this issue, including the balance between patient autonomy and the duty of care, the role of the family in decision-making, and the Islamic framework for understanding the permissibility of allowing death through withdrawal of life-sustaining treatment, are discussed in the chapter on end-of-life care.

199.3 Pharmacological Considerations in Patients with Renal Failure

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The prescription of psychotropic medications in patients with CKD and ESRD requires careful attention to pharmacokinetics, since most psychotropic drugs or their active metabolites are renally excreted to varying degrees. Drug accumulation in the context of reduced renal clearance can lead to toxicity, while reduced protein binding in uraemia can alter the free fraction of highly protein-bound drugs.

Among antidepressants, sertraline and escitalopram are generally considered the safest SSRIs in CKD, requiring dose adjustments at severe stages. Mirtazapine requires dose reduction in advanced CKD. Tricyclic antidepressants should be used with great caution due to their anticholinergic effects (which can exacerbate the constipation that is already a problem in dialysis patients) and their tendency to accumulate in renal failure.

Among antipsychotics, haloperidol and quetiapine are generally safe in CKD, though dose reductions are appropriate at advanced stages. Clozapine, with its complex pharmacology, requires careful dose titration and monitoring in patients with renal impairment.

Lithium, which is entirely renally excreted and has a narrow therapeutic index, requires very careful use and rigorous serum level monitoring in patients with CKD, and is relatively contraindicated in ESRD. Alternative mood stabilizers (valproate, lamotrigine) may be preferable in patients with significant renal impairment.

CHAPTER TWO HUNDRED: CHRONIC PAIN AND ITS PSYCHIATRIC DIMENSIONS IN BANGLADESH

200.1 The Scope of Chronic Pain in Bangladesh

Chronic pain, defined as pain persisting beyond three months and typically beyond the expected period of tissue healing, is one of the most prevalent and disabling conditions globally and in Bangladesh. Population-based studies from South Asia suggest that chronic pain affects approximately 20 to 30 percent of adults, with the highest prevalence in women, older adults, people with lower socioeconomic status, and people with significant psychological comorbidity.

In Bangladesh, the most common forms of chronic pain presenting to clinical attention include chronic low back pain (the most common musculoskeletal complaint globally), chronic headache and migraine, chronic pelvic pain in women (often associated with gynecological conditions but also with psychological factors), fibromyalgia and widespread musculoskeletal pain, and the chronic pain syndromes associated with specific medical conditions including diabetic neuropathy (extremely common given the high prevalence of diabetes), sickle cell disease (relevant primarily in some ethnic communities), and cancer pain.

Chronic pain is inherently biopsychosocial in its pathophysiology and in its clinical management. The neurobiological mechanisms of chronic pain, including central sensitization (in which the central nervous system becomes sensitized to pain signals, amplifying them beyond their nociceptive basis), neuroinflammatory changes in pain-processing circuits, and the

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modulation of pain perception by emotional states and cognitive appraisals, mean that chronic pain cannot be understood or treated purely as a peripheral sensory problem.

200.2 The Relationship Between Chronic Pain and Mental Illness

The relationship between chronic pain and psychiatric disorders, particularly depression and anxiety, is bidirectional and clinically profound. Depression and anxiety increase the perception of pain intensity, reduce pain tolerance, impair functional coping, and perpetuate the disability and suffering associated with chronic pain. Conversely, chronic pain generates depressive and anxious reactions through a combination of biological mechanisms (shared neural pathways, inflammatory changes, HPA axis dysregulation) and psychological mechanisms (helplessness, loss of function, social isolation, and existential distress about the future).

In Bangladesh, the management of chronic pain at the interface of physical medicine and psychiatry is particularly challenging. Access to pain specialists is extremely limited, and the majority of patients with chronic pain are managed by general practitioners or outpatient clinics that have neither the expertise nor the time to implement the multidisciplinary pain management approach that the evidence base supports. Opioid analgesics are prescribed, often without adequate assessment of the pain's multidimensional nature or the patient's psychological comorbidity, and without the concurrent psychological and rehabilitation interventions that are required for safe and effective chronic pain management.

The risk of opioid misuse and dependence in the context of chronic pain management is an important concern in Bangladesh, where the burden of opioid use disorder is already significant. The development of safe and effective chronic pain management protocols that integrate pharmacological, psychological, and physical rehabilitation approaches, while minimizing the risks of opioid dependence, is an important clinical development priority.

200.3 Pain and Culture in Bangladesh

Cultural factors profoundly shape the experience, expression, and management of pain in Bangladesh. Pain expression is partly regulated by cultural norms about appropriate emotional display: men in particular may be socialized to minimize the expression of pain, which can lead to under-reporting and under-treatment. The somatic expression of psychological distress, which is culturally sanctioned and common in Bangladesh, means that many patients with primarily psychological distress present with pain complaints, and that distinguishing between pain that is primarily nociceptive, primarily neuropathic, primarily centrally sensitized, and primarily a somatic expression of psychological distress requires considerable clinical skill.

Spiritual and religious frameworks for understanding pain are important in Bangladesh. Within the Islamic tradition, suffering and pain can be understood as a trial (ibtila) from Allah that offers the opportunity for spiritual growth, as a form of expiation (kaffarah) for sins, and as an opportunity for the development of patience (sabr). These frameworks can be genuinely supportive and meaning-generating for patients with chronic pain, and the CLP clinician should be sensitive to them rather than dismissing them as mere coping. At the same time, these

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frameworks can sometimes lead patients to accept pain passively without seeking treatment, or can create guilt about seeking relief if pain is believed to be divinely willed.

CHAPTER TWO HUNDRED AND ONE: END-OF-LIFE CARE, PALLIATIVE PSYCHIATRY, AND THE ETHICS OF DYING IN BANGLADESH

201.1 Palliative Care in Bangladesh: An Overview

Palliative care, defined by the World Health Organization as an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual, remains in its early stages of development in Bangladesh.

The national palliative care landscape is characterized by limited but growing formal services, concentrated primarily in Dhaka at the Centre for Palliative Care at the National Cancer Research Institute and Hospital, and at a small number of NGO-operated facilities. The great majority of people dying from cancer, end-stage organ failure, or progressive neurological disease in Bangladesh do so without access to any formal palliative care, relying entirely on family caregiving and, where available, general medical care.

The psychiatric dimensions of palliative care, sometimes called palliative psychiatry, encompass the assessment and treatment of depression, anxiety, delirium, demoralization, existential distress, and other psychiatric conditions in patients who are approaching death, the support of family caregivers, and the ethical management of complex decisions about life-sustaining treatment.

201.2 Delirium at the End of Life

Terminal delirium, also known as terminal restlessness, is an extremely common and distressing feature of the dying process. Approximately 80 to 90 percent of patients develop delirium in the final hours to days of life. Terminal delirium is often irreversible, in contrast to delirium at earlier stages of illness, because the underlying cause is the global organ failure of the dying process itself rather than a specific, treatable precipitant.

The management of terminal delirium differs from the management of delirium in other contexts. The investigative and treatment approach appropriate for reversible delirium (pursuing and treating underlying causes) is inappropriate for terminal delirium, where the focus must shift to palliation and to the comfort and dignity of the dying patient. Haloperidol or, for patients with refractory agitation, midazolam or phenobarbital by subcutaneous infusion, can provide relief of distressing behavioral manifestations. The communication with families about the nature of terminal delirium, which they often experience as deeply distressing and as indicating that their loved one is suffering, is one of the most important and most difficult communication tasks in palliative care.

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201.3 Existential Dimensions of Dying in Bangladesh

The cultural and religious context of dying in Bangladesh shapes the existential dimensions of terminal illness in profound ways. For the overwhelming majority of dying Bangladeshis, the Islamic framework provides the primary context for understanding death and what follows it. Death is not regarded in Islam as an absolute ending but as a transition: the beginning of the akhirat (afterlife) and the movement toward the divine. The concept of husnul khatima (a good ending), in which the dying person approaches death in a state of peace, devotion, and hope for divine mercy, represents a profound cultural and religious aspiration that palliative care can help or hinder.

The recitation of the Shahada (the declaration of faith) by or for the dying person is of paramount importance in Islamic tradition, and the presence of family members and religious figures at the bedside is both desired and culturally prescribed. Health care settings that are organized around clinical efficiency rather than the facilitation of these cultural and spiritual practices may inadvertently create distress for dying patients and their families.

The concept of tanatology (the study of death and dying) in the Bangladeshi context must grapple with these cultural specifics. Elisabeth Kubler-Ross's five-stage model of grief (denial, anger, bargaining, depression, and acceptance), while enormously influential in Western palliative care, does not translate simply into the Bangladeshi cultural context, where the frameworks for understanding illness, death, and the afterlife are different and where the social process of dying involves the family and community rather than being primarily an individual psychological journey.

201.4 Ethical Dimensions of End-of-Life Decision-Making in Bangladesh

End-of-life decision-making in Bangladesh involves a unique set of ethical considerations shaped by the intersection of Islamic ethics, family-centered decision-making, limited palliative care infrastructure, and the absence of a comprehensive legal framework for advance care planning.

Islamic jurisprudence provides a sophisticated framework for thinking about the ethics of medical treatment at the end of life. The concept of la darara wa la dirara (no harm and no harming) supports the withdrawal of futile treatments that serve only to prolong suffering without providing benefit. Most mainstream Islamic scholars accept that it is permissible to withhold or withdraw life-prolonging treatment when it is clearly futile or when it is adding to the burden of suffering rather than contributing to meaningful recovery. Active euthanasia and physician-assisted suicide are, however, not accepted within mainstream Islamic ethics, as the taking of human life (including one's own) is prohibited.

In practice, end-of-life decisions in Bangladesh are rarely made through explicit discussion and formal consent processes involving the patient. They are more often made through informal family negotiations, with or without the participation of the medical team, and with the patient often excluded from the decision-making process, particularly when the family believes that knowledge of a terminal prognosis would cause unnecessary distress. This pattern of family-

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mediated decision-making is culturally normative in Bangladesh but creates ethical tensions with the principles of patient autonomy that are central to contemporary biomedical ethics.

The development of culturally appropriate advance care planning frameworks for Bangladesh, that engage with Islamic ethical frameworks, respect family decision-making traditions, and still ensure that the patient's own voice and preferences are heard, is an important priority for both clinical practice and policy development.

CHAPTER TWO HUNDRED AND TWO: PHARMACOLOGICAL CHALLENGES IN THE MEDICALLY ILL: DRUG INTERACTIONS, PSYCHOTROPIC SAFETY, AND PRESCRIBING IN COMPLEX PATIENTS

202.1 The Complexity of Psychopharmacology in Medically Ill Patients

The prescription of psychotropic medications in patients with significant physical illness is one of the most technically demanding aspects of CLP practice. Medically ill patients typically take multiple medications, many of which interact pharmacokinetically or pharmacodynamically with psychotropic drugs. They may have impaired hepatic or renal function that alters drug metabolism and excretion. They may have conditions, including cardiac disease, seizure disorders, and electrolyte abnormalities, that increase the risk of adverse effects from certain psychotropic drugs. And they may have reduced physiological reserve that makes them more vulnerable to even modest drug effects that a healthy person would tolerate without difficulty.

202.2 Key Drug Interactions in CLP Practice

Pharmacokinetic interactions, which alter the levels of drugs in the body, are the most important category for CLP practice. The cytochrome P450 (CYP) enzyme system, which metabolizes the majority of both psychotropic drugs and general medical drugs, is a major site of interactions. Inhibitors of CYP enzymes reduce the metabolism of other drugs, potentially leading to toxicity; inducers increase metabolism, potentially reducing efficacy.

Among the SSRIs, fluoxetine and fluvoxamine are potent inhibitors of CYP2C19, CYP2D6 (fluoxetine), and CYP1A2 (fluvoxamine), and can significantly increase the plasma levels of drugs metabolized by these enzymes, including tricyclic antidepressants, certain antipsychotics, anticoagulants, beta-blockers, and several antiretrovirals. Sertraline has fewer CYP inhibitory effects at standard doses and is generally preferable in patients on complex polypharmacy.

Carbamazepine, one of the most widely used anticonvulsants in Bangladesh, is a powerful inducer of CYP3A4 and several other CYP enzymes. It significantly reduces the plasma levels of many other drugs including antipsychotics (haloperidol, clozapine, aripiprazole), antidepressants, antiretrovirals, immunosuppressants, and oral contraceptives. This induction effect means that standard doses of these drugs may be subtherapeutic in patients taking carbamazepine, and dose adjustments are required.

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Warfarin, widely used for atrial fibrillation, mechanical heart valves, and deep vein thrombosis in Bangladesh, has significant pharmacokinetic and pharmacodynamic interactions with several psychotropic drugs. SSRIs increase bleeding risk through their antiplatelet effects (independent of warfarin). Many antiepileptic drugs alter warfarin metabolism. Lithium and NSAIDs (often prescribed for pain) can interact in ways that increase lithium toxicity.

202.3 QTc Prolongation: A Major Safety Concern in CLP Practice

QTc prolongation, an abnormality of the electrocardiogram representing prolonged repolarization of the cardiac ventricles, is a risk factor for potentially fatal ventricular arrhythmias including torsade de pointes (TdP) and ventricular fibrillation. Many psychotropic drugs prolong the QTc, and this effect is additive with other QTc-prolonging drugs, electrolyte abnormalities (hypokalemia, hypomagnesemia, and hypocalcemia all prolong QTc), and baseline cardiac conditions.

Among commonly used psychotropic drugs, the following are associated with clinically significant QTc prolongation: antipsychotics (particularly haloperidol at high doses or intravenous administration, thioridazine, and to a lesser extent many atypical antipsychotics including ziprasidone and quetiapine), tricyclic antidepressants, and at clinical doses, citalopram (the SSRI with the greatest QTc effect, prompting dose restrictions in several countries). The risk of TdP is substantially higher in patients with pre-existing QTc prolongation, electrolyte abnormalities, structural heart disease, and bradycardia.

In CLP practice in Bangladesh, where patients are often on multiple QTc-prolonging drugs (including antimicrobials such as azithromycin, fluoroquinolones, and antifungals; antiemetics such as metoclopramide; and antiarrhythmics), the risk of TdP from adding a psychotropic drug to an existing regimen requires routine ECG monitoring. This is an area where Bangladeshi CLP practice can be improved through relatively simple protocol development: requiring a baseline ECG before prescribing antipsychotics or tricyclics in any patient with cardiac disease or on other QTc-prolonging drugs.

202.4 Psychotropic Prescribing in Specific Medical Conditions

In hepatic disease, the capacity to metabolize hepatically metabolized drugs is reduced, and the risk of drug accumulation and toxicity is increased. Additionally, sedating drugs may precipitate or worsen hepatic encephalopathy in patients with significant liver dysfunction. Mirtazapine, which is highly hepatically metabolized and which has significant sedative effects, should be used with great caution in patients with significant liver disease. SSRIs are generally safer in liver disease, though dose reductions are appropriate in severe hepatic impairment. Valproate is hepatotoxic and should be avoided in patients with liver disease.

In cardiac disease, as discussed, the key concerns are QTc prolongation, orthostatic hypotension, and drug interactions with cardiac medications. In respiratory disease (including COPD and obstructive sleep apnea), the key concerns are respiratory depression from benzodiazepines and opioids, and the effects of hypoxia and hypercapnia on mental status. In thyroid disease, the important consideration is that thyroid dysfunction directly affects mood

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(hypothyroidism causing depression and cognitive slowing, hyperthyroidism causing anxiety and, sometimes, mania), and that treatment of the thyroid condition may substantially improve or resolve the psychiatric symptoms.

CHAPTER TWO HUNDRED AND THREE: SUICIDE RISK ASSESSMENT AND MANAGEMENT IN MEDICAL SETTINGS IN BANGLADESH

203.1 Suicide Risk in Medically Ill Patients: Epidemiology and Risk Factors

The epidemiology of suicide in medically ill patients is well established in high-income countries, where linkage studies between medical registries and death certificates have documented substantially elevated standardized mortality ratios for suicide in patients with a wide range of physical conditions. The conditions most strongly associated with elevated suicide risk include cancer (particularly head and neck, lung, and gastrointestinal cancers), chronic pain, HIV/AIDS, epilepsy, traumatic brain injury, Huntington's disease, multiple sclerosis, end-stage renal disease, and heart failure. In all these conditions, the elevated suicide risk is not explained entirely by the associated psychiatric comorbidity; rather, the suffering, disability, and loss of autonomy associated with the physical condition itself contribute independently to suicide risk.

In Bangladesh, the assessment and management of suicide risk in medically ill patients presents particular challenges. The cultural and religious prohibitions on suicide (both Islamic and Hindu traditions strongly prohibit it, and its discussion is highly stigmatized) may prevent patients from disclosing suicidal ideation, even to mental health professionals. The absence of systematic suicide risk assessment protocols in most Bangladeshi general hospitals means that at-risk patients are frequently not identified. And the limited psychiatric consultation capacity means that even when patients are identified as being at risk, timely and skilled assessment and management is not always possible.

203.2 Assessment of Suicide Risk in Medical Settings: A Practical Framework

The assessment of suicide risk in a medically ill patient follows the same general principles as suicide risk assessment in any context, but must be adapted to the specific medical context. The assessment should include inquiry about suicidal ideation (active and passive), the presence of a specific plan, access to means, intent to act, protective factors, and the precipitating circumstances of the current episode of ideation.

In the medical setting, additional specific questions are relevant: Is the patient's suicidal ideation specifically linked to a wish to escape from the suffering of their illness? Is it associated with depression that may be treatable? Are there modifiable factors (inadequately treated pain, loss of control over bodily functions, social isolation, financial catastrophe) contributing to the patient's hopelessness that can be addressed? What is the patient's prognosis, and does the wish to die reflect a rational assessment of a terminal situation or a distorted view produced by depression?

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These last questions raise some of the most ethically charged debates in CLP practice. In patients with terminal illness and severe suffering, the boundary between suicidal ideation as a symptom of treatable depression and suicidal ideation as a rational response to an unlivable situation is genuinely contested. The ethical framework that most psychiatrists adopt is that depression must be excluded and treated before concluding that any degree of suicidal ideation is rational in the terminal illness context. Effective treatment of depression in terminal patients has been shown to reduce suicidal ideation in the great majority of cases.

203.3 The Management of Suicide Risk in Medical Settings

When a medically ill patient is assessed as being at significant risk of suicide, the management must be coordinated between the psychiatric team and the general medical team. The immediate priorities are to ensure the patient's physical safety (which in a medical setting may involve attention to access to medications, particularly those with high lethality in overdose), to address modifiable psychological risk factors (treating depression and pain, addressing specific psychosocial stressors), to engage the patient's family and support system, and to develop a safety plan.

Safety planning in the medical setting requires some adaptation from its use in the outpatient psychiatric setting. The patient's capacity to engage in collaborative safety planning may be limited by medical condition (delirium, severe fatigue, communication difficulties following stroke). The means available for self-harm may be different in a hospital setting than at home. And the protective factors that can be drawn upon (family presence, the therapeutic relationship with the clinical team, the patient's own coping resources) need to be identified and strengthened.

CHAPTER TWO HUNDRED AND FOUR: SPECIFIC TOPICS IN CLP: PSYCHOLOGICAL ASPECTS OF SURGERY, ORGAN TRANSPLANTATION, AND INTENSIVE CARE

204.1 Psychological Aspects of Surgical Care

Surgery is a major source of psychological stress for patients, and the pre-operative psychological state significantly influences surgical outcomes. Pre-operative anxiety is extremely common (affecting 60 to 80 percent of surgical patients to some degree) and is associated with higher analgesic requirements, longer post-operative recovery, greater risk of complications, and worse patient satisfaction. Conversely, effective pre-operative psychological preparation has been shown to reduce anxiety, reduce opioid requirements, and speed recovery.

In Bangladesh's surgical settings, pre-operative psychological preparation receives little systematic attention. Patients are often not adequately informed about what to expect from surgery and its recovery, contributing to anxiety based on uncertainty. Family separation (particularly in inpatient wards with restricted visiting hours) exacerbates the isolation that adds to surgical anxiety. And the cultural tendency to withhold distressing information (including the

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full details of a diagnosis and prognosis) from patients means that they sometimes go to surgery without fully understanding what is being done to them.

Post-operative delirium, as discussed, is common and preventable. Post-operative depression, emerging in the weeks to months following major surgery and reflecting both the psychological impact of the surgical experience and the effects of chronic pain, physical limitation, and altered body image, is also common and often unrecognized.

204.2 Psychiatric Aspects of Organ Transplantation

Organ transplantation, particularly kidney and liver transplantation, is performed in Bangladesh at a relatively small number of centers (primarily BSMMU and a few private hospitals) and at a small total volume compared to need. The psychiatric aspects of transplantation include the pre-transplant psychiatric evaluation, the management of psychiatric conditions that may affect transplant outcomes, and the psychological challenges of life following transplantation.

Pre-transplant psychiatric evaluation is an important but often incompletely performed component of the transplant assessment process in Bangladesh. The goals of pre-transplant psychiatric evaluation include the identification of active psychiatric conditions that need treatment before transplantation, the assessment of the patient's psychological capacity to adhere to the complex post-transplant medication regimen, the assessment of social support, and the identification of psychosocial risk factors for non-adherence and poor outcomes.

Non-adherence to immunosuppressant medications after organ transplantation is the leading preventable cause of graft rejection and graft loss. Depression, anxiety, cognitive impairment, poor social support, financial barriers to medication access, and maladaptive health beliefs are all predictors of non-adherence. Pre-transplant psychiatric assessment and post-transplant psychological support are essential components of a comprehensive transplantation program.

204.3 Psychiatric Aspects of Intensive Care

The intensive care unit (ICU) is a uniquely challenging environment for patients' psychological well-being. ICU patients face the immediate threat of death, experience severe physical suffering, are often unable to communicate (due to intubation or sedation), lose control over even the most basic bodily functions, and are subjected to painful and distressing procedures in an environment that is relentlessly bright, noisy, and disorienting.

Post-intensive care syndrome (PICS) refers to a cluster of new or worsening psychological and cognitive problems that emerge after ICU discharge and persist beyond the acute illness. PICS includes cognitive impairment, depression, anxiety, and PTSD, and affects approximately 30 to 50 percent of ICU survivors at six months following discharge. Among ICU survivors who required mechanical ventilation, PTSD is particularly common, reflecting the traumatic nature of the ICU experience itself.

In Bangladesh, where ICU capacity is limited and concentrated in urban tertiary centers, ICU survivors represent a small but highly vulnerable population with significant unmet mental

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health needs. The development of follow-up programs for ICU survivors that systematically assess and address PICS is a clinical priority in Bangladeshi tertiary hospital settings.

CHAPTER TWO HUNDRED AND FIVE: ORGANIZING CLP SERVICES IN BANGLADESH: MODELS, PRIORITIES, AND THE PATH FORWARD

205.1 The Current State of CLP in Bangladesh

The current state of CLP in Bangladesh can be characterized as functioning but underdeveloped. Psychiatry departments exist at most of the 37 government medical college hospitals and at a smaller number of private medical college hospitals. These departments receive referrals from medical and surgical wards and provide consultation services. However, the volume of consultations relative to the estimated prevalence of psychiatric comorbidity is very small, reflecting both the inadequate referral recognition by general medical staff and the limited capacity of psychiatry departments to respond.

The referral-based studies from Chittagong Medical College Hospital and Mymensingh Medical College Hospital provide the most detailed available picture of CLP practice in Bangladesh. These studies consistently find that referrals come predominantly from medicine and surgery, that the most common diagnoses are depression, functional neurological disorder, delirium, and anxiety disorders, and that the vast majority of referred patients receive pharmacological treatment as the primary or only intervention, with psychological interventions rarely offered.

The gap between what CLP services currently provide in Bangladesh and what the evidence shows they should provide is substantial. Systematic screening for psychiatric comorbidity, structured psychosocial interventions, multidisciplinary case management, liaison with general medical teams, and specialized services for high-need populations (cancer patients, dialysis patients, ICU survivors) are all absent from most Bangladesh hospitals.

205.2 Priorities for CLP Development in Bangladesh

A realistic framework for developing CLP services in Bangladesh over the next decade must take as its starting point the resource constraints and health system realities of the country while maintaining ambition about the ultimate goal. Several priorities stand out.

The first priority is the systematic training of general medical clinicians, particularly physicians, surgeons, and nurses at medical college hospitals, in the recognition of common psychiatric presentations in medically ill patients. Many studies demonstrate that medical clinicians can be trained in a day to recognize depression, delirium, and suicide risk in their patients with acceptable reliability. This training does not require the presence of a psychiatrist; it can be delivered by trained psychiatric nurses or clinical psychologists. The embedding of basic mental health training in the undergraduate medical and nursing curricula at Bangladeshi medical colleges would ensure that the next generation of clinicians has a baseline competency in recognizing psychiatric morbidity.

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The second priority is the establishment of formal CLP teams at major medical college hospitals. A CLP team should at minimum include at least one psychiatrist with a specific CLP role, at least one clinical psychologist, a psychiatric social worker, and a liaison nurse. The team should have a designated time for ward liaison activities (proactive consultation and case discussions with medical and surgical teams), not only for reactive consultation in response to referrals.

The third priority is the development of specific CLP programs for high-burden conditions. Cancer, diabetes, stroke, and dialysis are the conditions in which the psychiatric burden is highest and in which the evidence for the benefits of CLP is strongest. Establishing systematic psychosocial screening, management pathways, and support services within the clinical programs for these conditions would have enormous impact even within existing resource constraints.

The fourth priority is the development of community-based support for patients with chronic physical illness and psychiatric comorbidity following discharge from hospital. The challenge of continuity of care, always significant in psychiatry, is particularly acute in the CLP context where patients transition between hospital settings (where they have some psychiatric contact) and community settings (where none exists). Community health workers trained in basic mental health support, telephone follow-up programs, and the involvement of NGOs in post-discharge support represent potential components of a community CLP pathway.

205.3 The Role of Technology in Expanding CLP Services

Digital technology offers significant opportunities for expanding CLP services within Bangladesh's resource constraints. Telepsychiatry, in which psychiatric consultation is delivered via video link rather than in person, has been shown to be acceptable and effective in a range of CLP settings and could allow psychiatrists based in Dhaka to provide consultation to hospitals throughout the country that currently have no psychiatric capacity. Smartphone-based screening tools and psychoeducational apps for patients with chronic physical illness could support self-management and early identification of psychiatric complications. Digital platforms for training non-specialist health workers in basic mental health recognition and management could dramatically extend the reach of psychiatric expertise beyond the small number of trained specialists.

The COVID-19 pandemic accelerated the adoption of digital health tools in Bangladesh, as in many other countries, creating a digital infrastructure and a workforce with digital health skills that can be leveraged for mental health purposes. The challenge is to translate this potential into specific, sustainable service models rather than allowing it to remain at the level of pilot projects and isolated innovations.

CHAPTER TWO HUNDRED AND SIX: PHILOSOPHICAL AND ETHICAL DIMENSIONS OF CONSULTATION-LIAISON PSYCHIATRY

206.1 The Philosophical Meaning of the Mind-Body Problem in Clinical Medicine

CLP is, at its heart, a clinical expression of the philosophical conviction that the mind-body dualism that has shaped Western medicine since Descartes is not only intellectually inadequate but clinically harmful. By insisting that mental phenomena are real, causally significant, and irreducible to their physical substrates (while also being inseparable from them), CLP embodies a philosophical position that challenges the dominant paradigm of biomedicine at the same time as it participates in it.

The philosopher and psychiatrist Georg Northoff, whose work on neurophilosophy and "world-brain relations" has attracted significant attention in recent years, argues that the fundamental error of both Cartesian dualism and naive physicalism is that they begin from the wrong question. Instead of asking how mind relates to body (which already presupposes a separation between them), the right question is how the brain relates to the world, including the social and environmental world. On this view, the disorders that CLP addresses are not disorders of the mind or disorders of the brain in any simple sense: they are disorders of the relationship between the organism and its environment, expressed simultaneously in biological, psychological, and social dimensions.

This philosophical framework has practical implications. It suggests that the CLP clinician's job is not simply to diagnose and treat discrete psychiatric conditions in a person who happens to also have a physical illness, but to understand the patient as a whole organism navigating a whole situation, in which illness, psychological suffering, social context, and existential meaning are all aspects of a single complex reality. This is a demanding vision, and one that the time-pressured reality of hospital medicine makes very difficult to realize. But it represents the aspiration toward which CLP practice should orient itself.

206.2 Autonomy, Paternalism, and the Medically Ill Psychiatric Patient

The tension between patient autonomy and clinician beneficence, which runs through all of medical ethics, is particularly acute in the CLP context. Medically ill patients with psychiatric comorbidity present especially complex challenges to the assessment and exercise of decision-making capacity.

Decision-making capacity, as discussed in the context of CLP, is not a global attribute that a person either has or does not have: it is specific to particular decisions at particular times. A patient with moderate delirium may lack capacity to consent to a complex surgical procedure but may retain capacity to specify their preferred pain relief. A patient with severe depression may lack capacity to make an autonomous decision about discontinuing life-prolonging treatment because their judgment is distorted by hopelessness, but may retain capacity to specify who they want to be present at the end of their life.

The assessment of capacity in medically ill patients requires the application of a functional standard, not a diagnostic one. The diagnosis of depression, delirium, or dementia does not in itself establish that the patient lacks capacity for a specific decision; rather, the clinician must demonstrate that the condition in question impairs one or more of the specific cognitive and emotional components of decision-making for that particular decision.

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In Bangladesh, the cultural norm of family-mediated decision-making creates specific challenges for the application of autonomy principles. The presumption in much Western bioethics that the individual patient is the primary decision-maker, and that family involvement is secondary and requires the patient's explicit authorization, does not fit the Bangladeshi cultural reality, in which collective family decision-making is normative and in which the patient may actively prefer that their family take the lead. A culturally responsive approach to decision-making in CLP practice must navigate between the principled commitment to individual autonomy and the culturally specific ways in which autonomy is exercised in Bangladesh.

206.3 Truth-Telling in the CLP Context

The question of how much information to provide to patients about their diagnosis and prognosis is one of the most culturally variable and ethically charged areas of clinical practice. In the Anglo-American tradition, full disclosure of diagnosis and prognosis to the patient is regarded as a fundamental requirement of respect for autonomy and informed consent. In Bangladesh, as in many other South Asian and non-Western cultural contexts, family-mediated disclosure is common: the family is typically told the diagnosis first, decides how much information to share with the patient, and often chooses to withhold or minimize the seriousness of a terminal prognosis to protect the patient from unnecessary suffering.

This practice is not simply a product of cultural backwardness or disrespect for the patient; it reflects a genuinely held cultural belief that the emotional and spiritual burden of a terminal prognosis may be harmful and that the family's protective function includes shielding the patient from despair. Research on cancer patients in Bangladesh and other South Asian countries has found that a significant proportion of patients, when asked, prefer that their families manage disclosure, and that this preference may be associated with better psychological adjustment rather than worse.

The CLP clinician must navigate this territory with both cultural sensitivity and ethical integrity. While respecting cultural norms around family-mediated disclosure, it is also the clinician's responsibility to ensure that the patient's own preferences about receiving information are actively elicited and respected, that patients are not denied information they genuinely wish to have, and that the family's protective instincts do not prevent the patient from making the decisions (about treatment, finances, and personal affairs) that require knowledge of their actual situation.

CHAPTER TWO HUNDRED AND SEVEN: CONTROVERSIES IN CONSULTATION-LIAISON PSYCHIATRY: A CRITICAL APPRAISAL

207.1 The Legitimacy of Psychosomatic Medicine: Still Contested

One of the enduring controversies in CLP is the question of the scientific legitimacy and clinical utility of psychosomatic concepts. Critics, largely from within the biomedical tradition, argue that psychosomatic explanations are often invoked as a default when no organic cause has been

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found for a patient's symptoms, that they reflect a failure of diagnostic investigation rather than a genuine insight into the relationship between mind and body, and that they risk stigmatizing patients by attributing their physical symptoms to psychological causes in a way that implies the symptoms are less real or less worthy of treatment.

This criticism has some validity. The history of medicine is littered with conditions that were once attributed to psychological causes (multiple sclerosis, Parkinson's disease, Helicobacter pylori-related peptic ulcer, and many others) and were later found to have specific organic etiologies. The concept of "medically unexplained symptoms," despite the best intentions of its proponents, can operate as a waste-basket category in which patients with difficult-to-diagnose conditions are parked, their symptoms attributed to psychological factors without adequate investigation, and their care effectively abandoned.

The counter-argument is that the mind-body relationship is real, that the biological mechanisms through which psychological states affect physical health are established, and that denying this reality in the name of scientific rigor is itself a form of intellectual error. The challenge for CLP is to apply psychosomatic concepts rigorously, specifically, and with attention to the evidence, not as a default explanation when organic causes cannot be found, but as a framework for understanding the complex interactions between mind and body that shape illness experience and health outcomes.

207.2 The Antidepressant Debate in Medically Ill Patients

The controversy about the efficacy of antidepressants in the general population, which has been extensively debated following the publication of meta-analyses by Kirsch and colleagues suggesting that much of the apparent benefit of SSRIs over placebo reflects publication bias and that the true effect size is small, has specific implications in the CLP context.

In medically ill patients with depression, the question of the antidepressant effect is further complicated by the biological contributions to their depression (inflammation, metabolic changes, sickness behavior) that may be partially antidepressant-unresponsive. A 2024 meta-analysis specifically examining antidepressant efficacy in physically ill patients found effect sizes that were modest in many populations but somewhat larger in patients with the highest levels of depression severity, which is consistent with the pattern seen in studies in the general population.

The controversy does not invalidate the use of antidepressants in medically ill patients, but it does support a more cautious and individualized approach: reserving pharmacological treatment for patients with significant depression severity, combining it with psychosocial interventions wherever possible, monitoring response carefully, and being prepared to discontinue if there is no demonstrable benefit.

207.3 The Diagnosis of Delirium Versus Acute Psychiatric Conditions: Persistent Challenges

The distinction between delirium and acute psychiatric conditions (particularly psychosis and mania) is an important and sometimes very challenging clinical task. Hyperactive delirium, with

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its agitation, hallucinations, and disorganized thinking, can closely mimic acute psychosis. Hypoactive delirium can mimic severe depression or akinetic stupor. The fluctuating consciousness of delirium can be mistaken for the voluntary fluctuation of behavior seen in some conversion disorders.

Several features help distinguish delirium from functional psychiatric conditions: the acute onset of delirium (over hours to days) versus the more gradual onset typical of schizophrenia or manic episodes; the impaired consciousness and inattention that are central to delirium but not to functional psychosis; the medical precipitant that is typically identifiable in delirium; and the predominance of visual hallucinations in delirium (versus auditory hallucinations in schizophrenia). However, none of these features is pathognomonic, and in complex patients (particularly those with pre-existing psychiatric conditions who develop delirium) the distinction can be very difficult.

In Bangladesh, where the assessment of delirium in general medical wards is often done by clinicians without specific psychiatric training, the misclassification of delirium as a functional psychiatric condition, or vice versa, is likely common. The clinical consequences of misclassification can be significant: prescribing a psychiatric medication when what is needed is treatment of the underlying medical cause, or failing to investigate for a medical cause when delirium is the actual diagnosis, both carry risks. This underscores the value of systematic delirium screening, psychiatric consultation for complex cases, and educational programs for general medical staff in the differentiation of organic from functional psychiatric presentations.

207.4 Is Medicalizing Grief a Harm? The ICD-11 Prolonged Grief Disorder Debate

The inclusion of Prolonged Grief Disorder (PGD) in ICD-11 as a new diagnostic category has generated significant controversy, with implications for CLP practice. Proponents argue that a significant minority of bereaved individuals develop a clinically distinct grief response characterized by persistent yearning, intense grief, difficulty accepting the death, and functional impairment beyond a year of the loss, that is distinguishable from normal grief and from depression, and that responds to specific psychosocial treatments (complicated grief therapy, developed by Katherine Shear) better than it responds to standard depression treatments.

Critics argue that grief is a fundamental human experience and that its medicalization risks pathologizing a normal and ultimately healthy response to devastating loss, further stigmatizing the bereaved, and creating demand for treatments that people would not otherwise seek. The debate mirrors broader concerns about the expanding boundaries of psychiatric diagnosis and the risks of overmedicalizing human experience.

In the CLP context, grief is extremely common: the losses associated with serious physical illness, including loss of function, loss of roles, loss of the hoped-for future, and eventually the loss of life itself, generate grief processes at every stage of illness. The question of when grief in the context of illness crosses the line from a normal and expected response to a clinical condition requiring treatment is one that CLP clinicians must navigate with sensitivity and judgment.

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In Bangladesh, where the cultural and religious frameworks for understanding and processing grief are rich, where the communal rituals of mourning provide important psychological support, and where the medicalization of grief may be culturally incongruent, the CLP clinician must be particularly thoughtful about applying Western diagnostic categories to grief experiences. The priority should be to identify and treat grief that has become a barrier to functioning, that involves untreated depression or PTSD, or that has deprived the bereaved person of the social support they need, rather than to apply a diagnosis to any grief that exceeds a temporal threshold.

CHAPTER TWO HUNDRED AND EIGHT: COMPREHENSIVE CASE STUDIES FOR PART THIRTEEN

Case Study 13.1: Post-Myocardial Infarction Depression in a Dhaka Garment Worker

Mohammad is a 47-year-old male garment factory supervisor from a working-class neighborhood of Dhaka. He was admitted to a teaching hospital six weeks ago with an acute ST-elevation myocardial infarction (STEMI) and underwent emergency percutaneous coronary intervention (PCI). The procedure was technically successful. He was discharged after five days on a regimen of aspirin, clopidogrel, a beta-blocker, a statin, and an ACE inhibitor.

Since discharge, his wife has noted that he has been "completely different." He spends most of the day lying in bed, barely speaks, and has told her twice that he "should have died in the hospital." He refuses to attend the cardiac rehabilitation sessions that were arranged. He has stopped going to the mosque, which had previously been a central part of his daily routine. He eats very little. He is afraid to exert himself even minimally, believing that any physical activity will trigger another heart attack. His wife is both frightened and exhausted, and the couple's three school-age children are distressed by the change in their father.

Mohammad is referred to CLP by the cardiology registrar who sees him at a six-week follow-up appointment and is alarmed by his appearance and the statement he makes about wishing he had died.

CLP assessment finds that Mohammad meets criteria for major depressive disorder, with persistent low mood, anhedonia, sleep disturbance (early morning waking), reduced appetite, fatigue, worthlessness, difficulty concentrating, and passive suicidal ideation ("it would have been better if I had died"). He has no active plan or intent. His PHQ-9 score is 22 (severe range). He has a previous history of a single episode of depression five years ago, which resolved without treatment. His family history is positive for depression in his mother.

His explanatory model for his current state combines biomedical and psychological elements: he believes that his heart "is not right" and that any exertion could kill him; he also feels that his heart attack was a punishment for past sins (he had been involved in business practices that he retrospectively regards as dishonest) and that he deserves to suffer. He is reluctant to accept the idea of psychiatric treatment, which he associates with "madness."

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From a conceptual standpoint, Mohammad's case illustrates several key dimensions of CLP practice. Post-MI depression, as the evidence reviewed in Chapter 194 demonstrates, is both extremely common and prognostically significant: his depression increases his risk of recurrent MI and death, and his avoidance of cardiac rehabilitation is preventing the physical recovery he needs. The combination of biological vulnerability (prior depression history, family history), the direct neurobiological effects of the cardiac event (inflammatory changes, HPA axis activation), and the psychosocial stressors (fear of recurrence, altered role in the family, financial concerns about his ability to return to work, and the guilt-driven spiritual distress) is a classic CLP picture.

Management involves several components. Sertraline is initiated at 25 mg daily (low starting dose given his recent MI) with slow titration, with an ECG performed at baseline and repeated at two weeks to ensure no QTc prolongation. A psychoeducational session is conducted with Mohammad and his wife together, explaining the diagnosis of post-MI depression, framing it not as weakness or madness but as a biological consequence of his cardiac event that is both understandable and treatable. His fear of physical activity is addressed using a cognitive-behavioral approach: a brief explanation of the cardiac rehabilitation evidence, and the development of a very gradual, structured activity plan starting with short walks, with the cardiologist's explicit support. His spiritual distress is addressed by facilitating a conversation with his local imam, who provides an Islamic framework for understanding his illness as an opportunity for spiritual growth rather than as divine punishment. Over three months, with combined antidepressant treatment, psychoeducation, and graduated cardiac rehabilitation, Mohammad's PHQ-9 score falls to 8 (mild range), he has returned to a modified work role, and his wife reports that he is "much more himself."

Case Study 13.2: Delirium in a Post-Operative Patient at a District Hospital

Rasheeda is a 68-year-old woman from a rural area of Jessore who has undergone elective hip replacement surgery at the district general hospital. On the second post-operative night, the duty nurse calls the night doctor because the patient has become agitated, is attempting to remove her urinary catheter and intravenous drip, and is calling out for her deceased husband. She appears to be seeing things that are not there, reaching for invisible objects in the air. The nurse records that she was fine during the day.

The night doctor, who has no specific training in delirium assessment, is uncertain whether the patient is "going mad" or whether there is a medical problem. They administer a dose of haloperidol 5 mg intramuscularly and document "acute confusion, ? psychosis."

The following morning, a senior physician reviews the patient and uses the CAM to assess her. She has acute onset of altered behavior, is severely inattentive (cannot complete the days-of-the-week-backward task), and has disorganized thinking. She meets CAM criteria for delirium.

A systematic review of potential precipitants identifies several: she has not been adequately hydrated post-operatively, with estimated intake of only 500 mL in the previous 24 hours; her urine dipstick is positive for nitrites (urinary tract infection); she has been prescribed tramadol for post-operative pain (an opioid with risk of neuropsychiatric side effects particularly in the

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elderly); she has not had her habitual sleeping medication (a benzodiazepine she takes at home) since admission; and she was transferred from a side room (where she had natural light and a window) to a bay bed (with no natural light and with significant nighttime noise) on the previous afternoon.

Management involves correction of these modifiable factors: aggressive oral rehydration, empirical antibiotic treatment for presumed UTI, a switch from tramadol to regular paracetamol and PRN morphine at lower doses, a low dose of the benzodiazepine she takes at home to prevent withdrawal, and transfer back to a bed with natural light. Environmental modifications are implemented: a clock and calendar placed at the bedside, a nightlight to reduce disorientation at night, and a family member permitted to stay with her in the evenings. The haloperidol that was prescribed on the previous night is not repeated.

Over 48 hours, Rasheeda's delirium resolves. She has no recollection of the episode. Her family is distressed by what they witnessed and need reassurance that the episode was a medical event rather than the beginning of dementia.

The teaching points of this case include the common precipitants of postoperative delirium in elderly Bangladeshi patients, the use of the CAM, the non-pharmacological management approach, the risks of inappropriate pharmacological treatment (the high-dose haloperidol was inappropriate and potentially dangerous), and the importance of family communication.

Case Study 13.3: Depression, Demoralization, and Existential Distress in a Cancer Patient

Khaleda is a 52-year-old woman from Chittagong who has been diagnosed with locally advanced cervical cancer. She has received radiotherapy and is currently undergoing chemotherapy. She is admitted to the oncology ward for management of post-chemotherapy complications including neutropenic fever.

During her admission, the oncology registrar notes that she is refusing her chemotherapy infusions and has stated that she "wants to die." She is referred to CLP.

On assessment, Khaleda presents a complex picture that requires careful differentiation. Her PHQ-9 score is 15 (moderate-severe range). She has persistent low mood, marked anhedonia, hopelessness, and passive suicidal ideation without active plan. However, when engaged carefully about what she means by "wanting to die," she clarifies: "I don't want to kill myself. I just can't bear it anymore. The sickness from the chemotherapy is worse than the disease. I am a burden on my family. My husband had to sell part of our land to pay for my treatment. I can't go on like this."

This is a picture combining several elements: depressive disorder (warranting specific treatment), demoralization related to the intolerable suffering of cancer and treatment, legitimate existential distress about the financial catastrophe the illness has created, and a treatment decision (refusing chemotherapy) that reflects a considered, if distressed, value-based preference rather than a psychiatric emergency.

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The assessment specifically explores whether Khaleda has decision-making capacity to refuse chemotherapy. She understands her diagnosis and the likely consequences of refusing further treatment (that her cancer is likely to progress and that she will probably die within one to two years rather than having the possibility of cure). She can explain her reasoning clearly. She is not acutely delirious. She has a consistent, values-based position. The CLP clinician concludes that she has capacity for this decision, however distressing that conclusion is.

Management involves several distinct components. Sertraline is started for the depressive component, with both Khaleda and the clinical team understanding that the hope is to improve her emotional resilience and quality of life rather than to resolve the existential distress that is inseparable from her situation. A meeting is held with Khaleda, her husband, and the oncology team to explore her values, goals, and preferences. In this meeting, the oncologist clarifies that the chemotherapy regimen can be modified to reduce toxicity (potentially trading some reduction in efficacy for significantly better quality of life during treatment), and that palliative care options exist if she ultimately decides not to continue with curative intent treatment. An imam from the hospital's Islamic welfare service is invited to meet with Khaleda and her husband, at their request, to discuss the Islamic framework for understanding her situation, including the permissibility of limiting burdensome treatment.

Following this process, Khaleda decides to continue a modified chemotherapy regimen with better antiemetic support. Her PHQ-9 score at one month is 9 (mild range). She reports feeling "less alone" and "more in control" of her situation.

Case Study 13.4: Functional Neurological Disorder in the CLP Setting

Nasreen is a 28-year-old woman from Sylhet who has been admitted to the neurology ward with a three-week history of episodes of shaking and limb movements that look like seizures but have not responded to anticonvulsants. A video-EEG performed during a typical episode shows no ictal activity, and the semiology of the events (retained consciousness during bilateral motor activity, a long duration of 10 to 15 minutes, and rapid recovery) is inconsistent with epilepsy. The neurologist suspects functional neurological disorder (FND) and requests CLP assessment.

Nasreen's husband accompanies her and is visibly skeptical: "The EEG was normal? That machine must be wrong. She is having fits. We need proper medicine."

CLP assessment reveals that Nasreen has had a significant psychosocial stressor preceding the onset of her episodes: her father-in-law died three months ago, and in the weeks following his death, she was under intense family pressure regarding the distribution of inheritance, and her husband's family has made serious allegations of financial impropriety against her own family. She describes a sense of having no way out of this family conflict and of feeling "frozen inside" before her episodes begin.

She has some features of depression (low mood, sleep disturbance, reduced pleasure) and anxiety. There are no clear features of a primary psychotic disorder. Her family attributes the episodes to spirit possession (jinn al-saah), and they have already consulted a local kabiraj who performed a ruqyah ceremony, which provided temporary relief.

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The assessment uses the positive diagnostic criteria for FND: the Hoover sign (weakness showing inconsistency between voluntary and involuntary activation) is positive on examination; the video recording of an episode confirms the seizure features inconsistent with epilepsy.

Communication of the diagnosis is the most critical and most challenging aspect of FND management in the Bangladeshi CLP context. The explanation must be delivered sensitively, acknowledging the reality of the patient's symptoms while explaining the distinction between FND and malingering or exaggeration, using language accessible to a patient and family with limited medical literacy, and engaging with rather than dismissing the spiritual explanatory model.

A framework that has been found useful in Bangladeshi CLP settings is to explain FND as "the brain sending confused signals to the body" (a framing that implies a genuine neurological mechanism) rather than "it's all in your mind" (which implies fabrication). Acknowledging the genuine psychological distress that the family context has created, and explaining how this can produce real physical effects (using the familiar analogy of how extreme fear can cause fainting, or how grief can cause a lump in the throat), can help patients and families make sense of the diagnosis.

A multidisciplinary management plan is developed including specific physiotherapy for the motor episodes (using the Buzzing technique and other FND-specific motor rehabilitation approaches), CBT-based psychotherapy delivered by a clinical psychologist with FND experience, treatment of the depressive and anxious components with SSRI medication, and family work to address the social stressor. The patient's cultural explanatory model is respected: there is no attempt to convince the patient or family that spirit possession is impossible, but the clinical management addresses the functional component, and the family is advised that the ruqyah can continue alongside the clinical treatment.

CHAPTER TWO HUNDRED AND NINE: INVESTIGATION PROTOCOLS FOR CONSULTATION-LIAISON PSYCHIATRY IN BANGLADESH

209.1 General Principles of Investigation in the CLP Context

Investigation in the CLP context serves two overlapping purposes: the exclusion of organic causes for psychiatric presentations (or the identification of organic contributions to mixed presentations), and the assessment of physical health parameters relevant to the safe prescribing of psychotropic medications. These purposes are interrelated, and the investigation approach should serve both.

The general principle is to investigate purposefully rather than exhaustively. A battery of tests prescribed for every CLP patient without clinical rationale generates costs without clinical benefit and can delay appropriate treatment. Conversely, insufficient investigation risks missing organic contributions to the patient's presentation. Clinical judgment, guided by the presenting

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symptoms, the patient's medical history, and the likely differential diagnoses, should drive investigation decisions.

A practical tiered approach is as follows. Tier one investigations are appropriate for all patients referred to CLP unless specific reasons exist to omit them. These include: full blood count (FBC), which screens for anaemia, infection, and haematological malignancies that can all cause psychiatric symptoms; urea and electrolytes (U&E), which identifies renal impairment, sodium abnormalities, potassium and calcium levels (all of which can cause psychiatric symptoms and some of which affect psychotropic prescribing); random blood glucose (screen for hypoglycemia or hyperglycemia); liver function tests (LFTs), which assess hepatic function relevant to drug metabolism and identify hepatic disease; thyroid function tests (TFTs), particularly TSH, since both hypothyroidism and hyperthyroidism are common causes of psychiatric presentations; and urinalysis (urine dipstick), to screen for urinary tract infection as a common precipitant of delirium and behavioral change.

Tier two investigations are guided by clinical indications from the history and examination and from the tier one results. An ECG is indicated before prescribing antipsychotics or tricyclic antidepressants in any patient with known or suspected cardiac disease, in elderly patients, in patients on other QTc-prolonging medications, and as baseline monitoring when initiating these drugs in any patient. Brain imaging (CT or MRI) is indicated when the clinical picture suggests a neurological contribution to the psychiatric presentation: new-onset psychosis or mania in a patient without a prior psychiatric history, particularly over 40 years of age; cognitive impairment of unclear aetiology; focal neurological signs; history of head trauma; or findings on examination suggesting raised intracranial pressure. EEG is indicated when there is clinical suspicion of epilepsy, encephalopathy, or non-convulsive status epilepticus. Drug and alcohol levels are indicated when substance intoxication or withdrawal is possible. Serum vitamin B12 and folate are indicated in patients with cognitive impairment, depression, or any neuropsychiatric syndrome, as deficiency is common in Bangladesh and produces reversible cognitive and mood changes.

Tier three investigations are specialized and used for specific clinical questions. Lumbar puncture is indicated when encephalitis (particularly viral or autoimmune) is suspected. Serum autoimmune encephalitis antibodies (NMDA receptor antibodies, LGI1 antibodies, and others) are indicated in patients with acute or subacute psychiatric presentations accompanied by seizures, movement disorders, or autonomic instability, since autoimmune encephalitis is increasingly recognized as a cause of presentations initially diagnosed as primary psychiatric disorder. Neuropsychological testing is indicated when formal assessment of cognitive function is required, as in the workup of suspected dementia or cognitive impairment following stroke or head injury.

209.2 Investigation of Delirium in Bangladeshi Hospital Settings

When delirium is diagnosed or suspected, the investigation approach is driven by the search for underlying causes. In the Bangladeshi context, a systematic assessment protocol should include all of the following: physical examination with particular attention to temperature (infection), blood pressure (hypertension crisis, hypotension from dehydration or sepsis), oxygen saturation

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(hypoxia), and focal neurological signs; blood investigations including FBC, U&E, LFTs, blood glucose, blood cultures if sepsis is suspected, and arterial blood gas if respiratory cause is possible; urine dipstick and culture; chest X-ray; ECG; and review of all medications for potential precipitants.

Additional investigations depending on clinical context include CT brain (if new focal neurological signs are present or if the diagnosis is unclear), lumbar puncture (if meningitis or encephalitis is possible), blood ammonia (if hepatic encephalopathy is suspected), thyroid function (if not recently checked), and blood alcohol level (if alcohol-related delirium is possible).

The key principle is that delirium investigation is urgent: the workup should begin immediately upon clinical diagnosis, not deferred to the following day. Delirium is a medical emergency, and its investigation and management should be accorded the same urgency as any other acute medical emergency.

209.3 Psychometric Assessment Tools Validated for Use in Bangladesh

Several psychometric assessment tools have been validated for use in Bangladeshi populations and deserve specific mention for CLP practice.

The Patient Health Questionnaire-9 (PHQ-9) has been validated in Bangla and has demonstrated good sensitivity and specificity for major depression in multiple Bangladeshi settings including primary care, community, and hospital outpatient settings. A Bangla version developed by Uddin and colleagues has been widely used in research and is appropriate for clinical screening.

The Hospital Anxiety and Depression Scale (HADS) has been translated and validated in Bangla and is particularly useful in medically ill patients given its exclusion of somatic items.

The Generalized Anxiety Disorder-7 (GAD-7) has been translated into Bangla and used in several research studies in Bangladesh, with good performance characteristics.

The Mini-Mental State Examination (MMSE) has been adapted for use in Bangladeshi populations, with accommodations for the literacy requirements of the standard instrument. The Montreal Cognitive Assessment (MoCA), a more sensitive instrument for mild cognitive impairment, has also been translated and used in Bangladeshi settings.

The Confusion Assessment Method (CAM) has been validated in multiple languages and has been used in a small number of Bangladeshi research studies. Implementation of the Bangla CAM as a routine delirium screening tool in Bangladeshi general hospital wards represents an important quality improvement opportunity.

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CHAPTER TWO HUNDRED AND TEN: SPECIAL TOPICS IN CLP: MEDICALLY UNEXPLAINED SYMPTOMS, FUNCTIONAL SYNDROMES, AND THE DIAGNOSTIC INTERFACE

210.1 Medically Unexplained Symptoms in Bangladeshi Hospitals

Medically unexplained symptoms (MUS) constitute one of the largest and most poorly managed categories of presentations in general medical settings in Bangladesh. Patients with persistent fatigue, headache, widespread pain, gastrointestinal symptoms, palpitations, and other somatic complaints for which repeated investigation fails to identify an adequate medical explanation represent a substantial fraction of the outpatient and inpatient workload at Bangladeshi hospitals.

The management of patients with MUS is frequently unsatisfactory for both clinicians and patients. Clinicians experience frustration at the failure of investigations to yield a diagnosis, and may resort to repeated testing, inappropriate reassurance, or frank dismissal of the patient's symptoms. Patients experience frustration at not being believed or at having their symptoms minimized, anxiety that a serious organic cause is being missed, and demoralization at the lack of progress. This unsatisfactory dynamic perpetuates symptom persistence, drives excessive use of health services, and contributes to the development of the health anxiety and illness behavior patterns that can become self-sustaining.

The conceptual framework most useful for managing MUS in the Bangladeshi context is the ICD-11 category of bodily distress disorder (BDD), discussed in Part Nine. BDD is diagnosed when a patient has multiple distressing somatic symptoms that are not adequately explained by a medical diagnosis, and when the symptoms cause significant functional impairment and preoccupation. The BDD framework avoids the problematic dualism of "medically unexplained" (which implies that symptoms are either organic or psychological, never both) and focuses instead on the experience of distressing bodily symptoms and their functional consequences.

A stepped care approach to MUS is most appropriate in Bangladeshi hospitals. At the first level, appropriate but time-limited investigation is performed to exclude important organic diagnoses, with explicit communication to the patient about what has been found and what has been excluded. At the second level, basic psychoeducation about the relationship between psychological state and physical symptoms is provided, using culturally appropriate analogies (for example, explaining how emotional distress can cause physical symptoms in the same way that fear causes a racing heart). At the third level, specific psychological interventions (CBT, relaxation techniques, and graded activity programs) are offered for patients with persistent, distressing MUS that has not responded to lower-intensity approaches.

210.2 Functional Neurological Disorder in the Bangladesh Context

Functional neurological disorder (FND) deserves specific attention in the Bangladeshi CLP context. FND, defined as neurological symptoms (including motor symptoms such as weakness and tremor, sensory symptoms, gait disturbances, and non-epileptic attacks) that are inconsistent with known neurological disease and are better explained by a functional process, is one of the

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most common presentations seen by neurologists globally and is particularly common in South Asia.

In Bangladesh, FND presentations are extremely frequent, particularly in young women from rural areas, and are often attributed to spirit possession, jinn-related illness, or the consequences of extreme emotional stress. As discussed in Part Nine, these cultural explanations are not simply obstacles to correct diagnosis: they represent genuine attempts to make sense of distressing experiences within the conceptual frameworks available to patients and families, and any clinical approach that dismisses them without engagement will fail to establish the therapeutic alliance necessary for effective management.

The positive diagnosis of FND, rather than the exclusion-based approach that was historically used, has been a major advance in the field. Using specific clinical signs (like the Hoover sign for functional leg weakness, or the seizure features inconsistent with epilepsy for non-epileptic attacks) to make a positive diagnosis, and communicating this diagnosis as a genuine neurological condition (a disorder of the nervous system's software rather than its hardware) rather than as a diagnosis of exclusion or, worse, as an accusation of malingering, is fundamental to effective FND management.

The treatment of FND in Bangladesh requires adaptation of evidence-based approaches developed in high-income countries, particularly physiotherapy-based interventions (which have the strongest evidence base for motor FND) and CBT (which has evidence for non-epileptic attacks). The development of Bangla-language psychoeducational materials for FND patients, training of physiotherapists in FND-specific rehabilitation techniques, and building of clinical psychology capacity for FND are important development priorities.

CHAPTER TWO HUNDRED AND ELEVEN: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART FOURTEEN

211.1 Key Themes of Part Thirteen

Part Thirteen has explored the landscape of consultation-liaison psychiatry and the psychiatry of physical illness from the specific vantage point of Bangladesh. Across twenty-four chapters, several major themes have emerged that deserve summary and integration.

The first and most fundamental theme is the reality and clinical significance of the mind-body interface. The neuroscience of psychoneuroimmunology has established beyond reasonable doubt that psychological states affect physical health through multiple biological pathways, including the HPA axis, the autonomic nervous system, and the inflammatory system, and that physical illness affects psychological well-being through equally well-characterized mechanisms. This bidirectional relationship is not a philosophical abstraction: it has direct clinical consequences that manifest in every hospital ward in Bangladesh on every day.

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The second theme is the magnitude and the underrecognition of psychiatric comorbidity in physically ill patients in Bangladesh. Depression, anxiety, delirium, and demoralization are common in patients with every category of serious physical illness, and they are associated with worse physical health outcomes, higher costs, and greater suffering. The evidence from referral-based studies in Bangladeshi medical college hospitals, while showing the pattern of what is recognized and referred, inevitably underestimates the true prevalence by a large margin. The treatment gap in CLP in Bangladesh is, if anything, even larger than the already enormous treatment gap for mental disorders in the general population.

The third theme is the feasibility and effectiveness of interventions. For depression in medically ill patients, both pharmacological treatments (particularly SSRIs) and psychological treatments (particularly CBT, behavioral activation, and problem-solving therapy) have a good evidence base. For delirium, multi-component prevention programs reduce incidence by 30 to 40 percent and are both cost-effective and practically feasible with modest training investment. For psycho-oncological conditions, nurse-delivered supportive care, family psychoeducation, and spiritual care are accessible and culturally congruent approaches that can improve outcomes without requiring specialist infrastructure.

The fourth theme is the centrality of cultural competence in CLP practice in Bangladesh. The cultural context of illness, including the somatic expression of psychological distress, the plurality of explanatory models, the family-centered decision-making process, the role of spiritual and religious frameworks, and the specific cultural meanings attached to different diagnoses, profoundly shapes every aspect of CLP practice from assessment to treatment. The CLP clinician in Bangladesh cannot be effective without deep cultural literacy, and the development of culturally adapted assessment tools, treatment protocols, and communication frameworks is a research and clinical development priority.

The fifth theme is the organizational and workforce challenge. CLP cannot develop in Bangladesh without addressing the fundamental workforce shortage: without psychiatrists, clinical psychologists, psychiatric nurses, and social workers in adequate numbers and distributed throughout the country, the clinical vision outlined in this part cannot be realized. Task-sharing, technology-enhanced service delivery, and the systematic training of general medical clinicians in basic mental health recognition are necessary interim strategies while the specialist workforce is developed.

211.2 Connections to Part Fourteen

Part Fourteen of this textbook turns to forensic psychiatry and its intersection with law, criminal justice, mental health, and human rights in Bangladesh. The connections between Part Thirteen and Part Fourteen are multiple.

At the conceptual level, both parts deal with the relationship between psychiatry and institutions that are primarily organized around something other than mental health care: Part Thirteen addresses the general hospital, Part Fourteen addresses the criminal justice system. In both cases, the psychiatrist operates as a specialist consultant within an institution that has different primary goals, different cultures, and different power structures. And in both cases, the patient

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or subject may be vulnerable, have compromised autonomy, and be in particular need of psychiatric expertise that the primary institution is not equipped to provide.

At the clinical level, forensic psychiatry and CLP share important clinical domains. The assessment of decision-making capacity, which is central to CLP practice, is also foundational to forensic assessment (the assessment of fitness to stand trial, the assessment of criminal responsibility, and the assessment of testamentary capacity all rest on similar conceptual foundations). The management of violence and aggression is relevant in both inpatient medical settings (where agitated delirium may require behavioral management) and in forensic settings. And the ethical dimensions of practice, including the tension between individual patient interests and the interests of third parties or society, run through both subspecialties.

At the policy level, the development of both CLP and forensic psychiatry in Bangladesh requires attention to the same systemic issues: workforce development, legislative reform, public education about mental health, and the political prioritization of mental health as a genuine public health concern rather than a marginal issue in health policy planning.

Part Fourteen will examine the history of forensic psychiatry in Bangladesh, from the colonial Lunacy Act to the 2018 Mental Health Act, the legal framework for psychiatric assessment in criminal cases, the clinical practice of forensic assessment in Bangladeshi courts and prisons, the mental health of prisoners in Bangladesh, the management of mentally disordered offenders, the ethics and controversies of forensic psychiatric practice, and the specific public health dimensions of crime, violence, and mental illness in the Bangladeshi context.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART THIRTEEN

Vignette 13.1: A 55-year-old man with a long history of poorly controlled type 2 diabetes is admitted to the medicine ward with diabetic ketoacidosis. He is found to be confused on admission. His blood glucose is 28 mmol/L, sodium is 126 mmol/L, and he is clinically dehydrated. His wife reports that he has been "behaving oddly" for the past week, refusing to eat, staying in bed, and saying that he "cannot be bothered anymore." How would you differentiate between delirium and depression in this patient? What investigations would you prioritize? What management approach would you take, and how would you sequence it?

Vignette 13.2: A 38-year-old woman with end-stage renal disease on maintenance hemodialysis is referred by the nephrology team because she has been refusing to come to dialysis sessions. When assessed, she is tearful and states that she is "tired of living like this." She has a PHQ-9 score of 17. She is a widow with three young children and supports herself on income from renting out a small piece of land. She states that she cannot continue to bear the financial, physical, and social burden of dialysis, and that her children would be better off if she died and the dialysis costs could be used for their education. How would you assess her? What is your view of her decision-making capacity for the decision to stop dialysis? What ethical framework guides your management? What are the practical management priorities?

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Vignette 13.3: A 27-year-old woman is admitted to the gynecology ward for evaluation of chronic pelvic pain. She has had multiple negative investigations over three years, has been seen by three different gynecologists, and has undergone two diagnostic laparoscopies that found no abnormality. She is distressed and angry: "I am sick of doctors telling me there is nothing wrong. The pain is real. I am not making it up." She discloses, when asked sensitively, that she was sexually abused by a relative during her early teens. Her PHQ-9 is 13, and she reports significant anxiety. How would you approach the diagnostic formulation of her presentation? How would you communicate with her in a way that acknowledges both her physical symptoms and their psychological dimensions without implying that she is malingering? What treatment approach would you recommend?

Vignette 13.4: An 80-year-old man with advanced prostate cancer and bone metastases is admitted for pain management. He is cognitively intact and tells the ward doctor, calmly and clearly, that he does not wish to receive any further active cancer treatment, that he wishes only for comfort and pain relief, and that he would like to go home to die. His three adult sons, who are present, are distressed and insist that their father "must not give up" and demand that he continue chemotherapy. How do you assess the patient's decision-making capacity? How do you navigate the conflict between the patient's wishes and his family's demands? What does the Islamic ethical framework suggest about limiting treatment at the end of life? What palliative care services are realistically available to this patient in the Bangladeshi context?

Vignette 13.5: A 33-year-old man is admitted to a surgical ward following a road traffic accident in which he suffered a traumatic brain injury (a right frontal contusion on CT). He was initially confused post-injury but appears to have recovered well neurologically. However, his wife reports to the nurse, quietly and anxiously, that since the accident he has been "a different person": he has been making inappropriate sexual comments to strangers, has been spending money impulsively on things the family cannot afford, and last week got into a physical altercation with a neighbor over a trivial dispute. The ward team has attributed this to "stress from the accident." What is the most likely explanation for this behavioral change? What clinical assessment and investigations are indicated? What management approaches are available? What are the implications for the patient's capacity to return to his previous occupation (he is a bus driver)?

STUDY QUESTIONS FOR PART THIRTEEN

Explain the biological mechanisms through which chronic psychological stress affects cardiovascular health. Draw on the evidence from psychoneuroimmunology, HPA axis research, and autonomic nervous system research. What are the clinical implications of this evidence for the prevention and management of cardiovascular disease in Bangladesh?

Describe the clinical features that distinguish delirium from acute psychosis and from severe depression. Why is hypoactive delirium particularly prone to underdiagnosis? Outline a delirium prevention program appropriate for implementation on a general medicine ward in a Bangladeshi district hospital, with attention to the resource constraints of that setting.

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Analyze the relationship between depression and type 2 diabetes, explaining the evidence for bidirectionality. What are the mechanisms through which depression worsens glycemic control? How should the detection and management of depression be integrated into diabetes care in Bangladesh's primary care setting?

Discuss the concept of demoralization as distinct from clinical depression in patients with serious physical illness. What therapeutic approaches are specifically effective for demoralization? How do Islamic cultural and spiritual frameworks provide resources for addressing demoralization in Bangladeshi cancer patients?

Explain the pharmacokinetic and pharmacodynamic considerations relevant to prescribing psychotropic medications in patients with chronic kidney disease and end-stage renal disease. Which agents are safest and which should be avoided or dose-adjusted?

Describe the ethical framework for assessing decision-making capacity in medically ill patients. Apply this framework to the specific challenge of a dialysis patient who wishes to discontinue treatment. How does the family-centered decision-making culture of Bangladesh affect the application of this framework?

Outline a realistic model for developing consultation-liaison psychiatry services in a Bangladeshi medical college hospital over the next five years. What are the highest-priority components? What workforce, training, and organizational changes are required? How can technology help extend the reach of specialist expertise?

Analyze the philosophical claim that the mind-body dualism embedded in the organization of medical care is clinically harmful. Drawing on the case material and conceptual frameworks presented in this part, argue for the proposition that a genuinely integrated approach to physical and mental health would produce better outcomes for patients in Bangladesh.

FURTHER READING FOR PART THIRTEEN

Foundational Texts in Consultation-Liaison Psychiatry

Levenson, James L. (editor), "Textbook of Psychosomatic Medicine and Consultation-Liaison Psychiatry" (third edition, American Psychiatric Association Publishing, 2019), is the definitive comprehensive reference for the subspecialty, covering all the clinical conditions, treatment approaches, and service models addressed in this part. It should be the primary reference for any clinician developing expertise in CLP.

Stoudemire, Alan, Fogel, Barry S., and Greenberg, David B. (editors), "Psychiatric Care of the Medical Patient" (second edition, Oxford University Press, 2000), remains a valuable clinical reference particularly for its detailed coverage of the psychiatric aspects of specific medical conditions.

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Lloyd, Graeme and Guthrie, Elspeth (editors), "Handbook of Liaison Psychiatry" (Cambridge University Press, 2007), provides a comprehensive European perspective on CLP, with particular attention to service organization and models of care.

Psychoneuroimmunology

Ader, Robert, Felten, David L., and Cohen, Nicholas (editors), "Psychoneuroimmunology" (fourth edition, Academic Press, 2007), is the foundational text for the field, providing comprehensive coverage of the mechanisms through which the nervous system, endocrine system, and immune system interact.

Kemeny, Margaret E., and Schedlowski, Manfred, "Understanding the interaction between psychosocial stress and immune-related diseases: a stepwise progression," Brain, Behavior, and Immunity (2007), provides an accessible overview of the mechanisms through which psychological stress affects immune function and health.

Depression in Medically Ill Patients

Ismail, Khalida, Winkley, Kirsty, and Rabe-Hesketh, Sophia, "Systematic review and meta-analysis of randomised controlled trials of psychological interventions to improve glycaemic control in patients with type 2 diabetes," Lancet (2004), remains the landmark systematic review of psychological interventions for glycemic control.

Rudisch, Brian, and Nemeroff, Charles B., "Epidemiology of comorbid coronary artery disease and depression," Biological Psychiatry (2003), provides a comprehensive review of the evidence linking depression and cardiovascular disease.

Delirium

Inouye, Sharon K., Westendorp, Rudi G.J., and Saczynski, Jane S., "Delirium in elderly people," Lancet (2014), remains the most comprehensive and clinically useful review of delirium epidemiology, pathophysiology, and management.

Inouye, Sharon K., and colleagues, "A multicomponent intervention to prevent delirium in hospitalized older patients," New England Journal of Medicine (1999), is the landmark trial establishing the effectiveness of the Hospital Elder Life Program for delirium prevention.

Bangladesh-Specific Sources

Chowdhury, Zakir H., and colleagues, "Pattern of referral in a consultation-liaison psychiatry service at a tertiary care hospital in Bangladesh," Journal of Community Medical College Teachers Association (2025), provides the most recent descriptive data on CLP practice in Bangladesh and is essential reading for anyone establishing or evaluating a CLP service.

Shah, Tanvir Rahman, and colleagues, "The Nature and Activity of Liaison Psychiatry Services in Tertiary Care Hospital in Bangladesh: A study in MMCH," provides longitudinal referral

pattern data from a major Bangladeshi teaching hospital and documents the pattern of psychiatric comorbidity across medical and surgical specialties.

Arafat, S.M.Y. (editor), "Mental Health in Bangladesh: From Bench to Community" (Springer Nature Singapore, 2024), contains a specific chapter on consultation-liaison psychiatry in Bangladesh that provides the most comprehensive available overview of the subspecialty in the Bangladeshi context.

Psycho-Oncology

Breitbart, William, and Applebaum, Allison, "Meaning-centered group psychotherapy for patients with advanced cancer," in Breitbart, W., and Poppito, S. (editors), "Meaning-Centered Psychotherapy in the Cancer Setting" (Oxford University Press, 2014), provides the conceptual foundations and clinical protocol for meaning-centered psychotherapy, the most evidence-based approach to existential distress in cancer patients.

Kissane, David W., and colleagues, "Demoralization syndrome: a relevant psychiatric diagnosis for palliative care," Journal of Palliative Care (2001), introduced the demoralization syndrome concept that is central to understanding and treating existential distress in medically ill patients.

Palliative Care in Bangladesh

Islam, Tanvir, and colleagues, "Palliative care in Bangladesh: progress and challenges," Journal of Pain and Symptom Management (2022), provides a comprehensive overview of the current state of palliative care in Bangladesh and the priorities for its development.

Philosophy of Medicine

Northoff, Georg, "Neurophilosophy and Healthy Minds: Learning from Temporary Madness" (Cambridge University Press, 2018), provides an accessible introduction to neurophilosophical perspectives on mind-body relations that are directly relevant to the conceptual foundations of CLP.

Engel, George L., "The need for a new medical model: a challenge for biomedicine," Science (1977), is the foundational text for the biopsychosocial model and should be read in its original form by every medical student, as it remains as cogent and important as it was when first published.

Part Thirteen concludes here. Part Fourteen addresses Forensic Psychiatry and Mental Health Law in Bangladesh: the history and development of forensic psychiatry, the legal framework for psychiatric assessment in criminal and civil contexts, the mental health of prisoners and detainees, the assessment and management of mentally disordered offenders, the ethics of forensic psychiatric practice, and the specific challenges and opportunities for developing a humane and scientifically grounded forensic mental health system in Bangladesh.

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END OF PART THIRTEEN

PART FOURTEEN: FORENSIC PSYCHIATRY, MENTAL HEALTH LAW, HUMAN RIGHTS, AND PSYCHOSOCIAL REHABILITATION IN BANGLADESH

Foundations, Clinical Science, Legal Architecture, Controversies, and the Path Toward a Rights-Based Mental Health System

CHAPTER FIFTY-FOUR: FORENSIC PSYCHIATRY AS A DISCIPLINE: SCOPE, HISTORY, AND CONCEPTUAL FOUNDATIONS

54.1 Defining Forensic Psychiatry: The Intersection of Two Worlds

Forensic psychiatry is the subspecialty of psychiatry concerned with the application of psychiatric knowledge and clinical expertise to legal and criminal justice settings. The word "forensic" derives from the Latin "forensis," meaning "of or belonging to the forum," and in ancient Rome the forum was both the marketplace and the site of public legal proceedings. The etymological origin is instructive: forensic psychiatry places the psychiatrist in a public arena, before courts, legislatures, juries, and administrative tribunals, where the nature of the questions asked, the standards of evidence required, and the consequences of error are fundamentally different from those of ordinary clinical practice.

This double location, within both medicine and law, gives forensic psychiatry its particular intellectual and ethical character. The forensic psychiatrist must be simultaneously a clinician, a scientist, and a servant of justice. These roles sometimes complement each other and sometimes pull in different directions. The clinician's primary obligation is to the welfare of the patient; the expert witness's primary obligation is to the court and to the truth. The clinician seeks to understand the individual in all their complexity; the legal system requires categorical judgments (sane or insane, responsible or not responsible, dangerous or not dangerous) that clinical complexity often resists. Managing these tensions honestly, transparently, and with intellectual integrity is the central professional challenge of forensic psychiatric practice.

At its broadest, forensic psychiatry encompasses several distinct domains. Criminal forensic psychiatry addresses the role of mental disorder in criminal behavior: assessment of fitness to stand trial, assessment of criminal responsibility (the insanity defense), risk assessment for violence and reoffending, the mental health of prisoners, the treatment of mentally disordered offenders, and the management of high-risk individuals in secure settings. Civil forensic psychiatry addresses the mental health dimensions of civil legal proceedings: guardianship and competency assessments, capacity to make medical decisions, psychiatric aspects of personal injury claims, disability evaluations, child custody disputes, and the civil commitment of persons who are a danger to themselves or others. Correctional psychiatry is concerned with the

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provision of mental health services within prison systems. Forensic pathology and death investigation include the psychiatric evaluation of suicide and other equivocal deaths. And increasingly, forensic psychiatry extends into the realm of public policy, with psychiatrists providing expert input into the development of mental health legislation, sentencing policy, and the design of diversion programs.

In Bangladesh, forensic psychiatry is an almost entirely undeveloped discipline. As a 2024 chapter in a Springer volume on mental health in Bangladesh noted, there is no specialized training in forensic psychiatry in the country, even though a high prevalence of mental disorders has been found among prisoners, and there are only fifteen inpatient beds in an institution designated for forensic psychiatric patients for the entire nation of approximately 170 million people. This extraordinary gap between the scale of need and the available specialist capacity is one of the defining features of forensic psychiatry in Bangladesh, and understanding it requires both a historical and a structural analysis.

The history of forensic psychiatry globally is deeply entangled with the history of law, punishment, and social control. Its development in Bangladesh cannot be understood without reference to the colonial history of mental health legislation, the persistence of colonial-era institutional frameworks long after independence, the specific social and legal context of mental illness in a predominantly Muslim country governed by a mixed legal system drawing on both British common law traditions and elements of personal law derived from Islamic jurisprudence, and the profound resource constraints that shape every aspect of health care in Bangladesh. These themes will be explored throughout this part of the textbook.

54.2 The Historical Development of Forensic Psychiatry: From Medieval Madness Defenses to Modern Risk Assessment

The idea that mental illness might relieve a person of criminal responsibility for their actions has ancient roots in legal and philosophical thinking, though its systematic application as a legal doctrine is a product of modernity. In Roman law, the "furiosus" (madman) was held to be incapable of legal culpability because they lacked the requisite mental element of intent. The jurist Gaius wrote that the insane person was punished enough by their own madness. This principle, that mental incapacity negates criminal intent, survived in various forms through medieval European and Islamic legal traditions and eventually became embedded in the common law of England.

The decisive moment in the modern Anglo-American legal treatment of the insanity defense came in 1843, with the case of Daniel M'Naghten, a Scottish woodturner who killed the secretary of the British Prime Minister while suffering from what we would today recognize as a paranoid psychotic disorder. M'Naghten believed he was being persecuted by the government and by Tories, and killed the wrong man in the mistaken belief that he was his tormentor. The House of Lords, following M'Naghten's acquittal by reason of insanity and in response to intense public controversy, formulated the M'Naghten rules, which established that a person is not criminally responsible for their actions if, at the time of the act, they were laboring under such a defect of reason, from disease of the mind, as either not to know the nature and quality of the act they were doing, or, if they did know it, not to know that what they were doing was wrong.

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The M'Naghten rules were imported into the Indian Penal Code of 1860, which was drafted by Thomas Babington Macaulay and his colleagues for the administration of British India, and they remain embedded in Section 84 of the Bangladesh Penal Code (BPC) in virtually unchanged form to this day. Section 84 of the BPC provides that nothing is an offence that is done by a person who, at the time of doing it, by reason of unsoundness of mind, is incapable of knowing the nature of the act, or that what they are doing is either wrong or contrary to law.

This is remarkable: a legal standard formulated for a celebrated English murder trial in 1843 continues to define the legal test for criminal insanity in Bangladesh in the third decade of the twenty-first century, more than 180 years later. Its persistence reflects not only the immense institutional inertia of legal systems, but also the continuing dominance of colonial legal frameworks in Bangladesh's statutory architecture. The M'Naghten test has been subjected to sustained criticism from both legal and psychiatric perspectives over the course of those 180 years. Psychiatrists have argued that it is based on an outdated cognitive theory of mental illness that fails to capture the full range of ways in which serious mental disorder can compromise moral agency. Philosophers have argued that its narrow focus on knowledge of the wrongfulness of the act ignores the role of will and emotional regulation in determining culpability. And practitioners have argued that it sets an impossibly high standard that excludes most people with psychotic or severely affective disorders from its protection, while simultaneously providing a potential escape route for those skilled at feigning the required symptoms.

The global evolution of insanity and mental incapacity defenses beyond the M'Naghten rules has been complex and varied. In the United States, the Model Penal Code test (adopted by several states) added a volitional prong: a person is not responsible if, as a result of mental disease or defect, they lacked substantial capacity either to appreciate the criminality of their conduct or to conform their conduct to the requirements of law. This formulation recognized that mental illness can compromise not only cognitive capacities but also the capacity for self-governance. The irresistible impulse test, adopted in some jurisdictions, explicitly focused on the volitional dimension. England and Wales introduced the diminished responsibility defense in the Homicide Act 1957, allowing a reduction in charge from murder to manslaughter for defendants whose mental abnormality substantially impaired their responsibility, even if they did not meet the full M'Naghten criteria. The landmark Criminal Procedure (Insanity) Act 1964 in England introduced the concept of "fitness to plead" as a distinct question from substantive criminal responsibility.

Bangladesh has lagged significantly behind these developments. The absence of any systematic reform of Section 84 of the BPC, and the absence of provisions analogous to diminished responsibility or fitness to plead (in any comprehensive statutory form), means that the legal treatment of mental illness in the criminal justice system remains rooted in Victorian-era jurisprudence. This is not simply a matter of academic interest: it has profound practical consequences for the lives of mentally ill offenders who are processed through the criminal justice system without adequate assessment, without appropriate diversion into treatment, and without the legal protections that more developed forensic psychiatric systems provide.

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54.3 Conceptual and Philosophical Tensions in Forensic Psychiatry

Forensic psychiatry sits at the intersection of two fundamentally different modes of understanding human behavior. Medicine, and psychiatry as a branch of medicine, understands behavior through a causal-explanatory framework: behavior is the product of biological, psychological, and social causes, and abnormal behavior is the product of abnormal causes (including mental disorder). Law, by contrast, understands behavior through a normative-evaluative framework: behavior is the product of the exercise of free will, and people are held responsible for their behavior unless they can demonstrate that their free will was compromised by factors beyond their control.

These two frameworks are in fundamental tension. The medical model tends toward determinism: if we could fully understand the biological and psychological causes of a person's behavior, we might conclude that they could not have done otherwise than they did. The legal model requires at least a minimal conception of free agency: the capacity to choose between alternatives, to be responsive to reasons, and to be governed by norms. The question of where to draw the boundary between those whose mental states negate their agency and those who are merely providing causal explanations for behavior they chose to perform is one of the deepest questions in philosophy of mind, moral philosophy, and legal theory.

The philosopher of law H.L.A. Hart argued that criminal punishment requires that the person punished could have chosen to do otherwise. This "capacity principle" provides the conceptual foundation for the insanity defense: if mental illness entirely deprives a person of the capacity to choose in accordance with reason and law, punishing them is unjust. But Hart also argued that most people with mental illness retain significant capacities for choice and reason, and that the insanity defense should be reserved for a narrow class of cases in which the compromise of relevant capacities is severe and directly connected to the criminal act.

More recently, philosophers like Michael Moore have argued for a "moral incapacity" account of the insanity defense: the defendant is excused not because they lacked any capacity for choice, but because the choices they made were the product of a diseased mental state that deprived them of the normal capacity for moral understanding and response. This account is broader than M'Naghten but narrower than pure determinism, and it maps more closely onto psychiatric understandings of how serious mental illness can compromise moral agency without entirely eliminating it.

In Bangladesh, these philosophical questions are rarely articulated explicitly in legal or psychiatric practice. The M'Naghten test is applied mechanically (when it is applied at all, which is itself uncertain), without reflection on its conceptual foundations or its adequacy as a test of the kind of incapacity that should excuse criminal conduct. The development of forensic psychiatry in Bangladesh will require not only the training of specialist practitioners and the development of appropriate facilities, but a broader conversation within the legal and psychiatric communities about the philosophical and empirical foundations of the relationship between mental illness and criminal responsibility.

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There is also a profound tension in forensic psychiatry between the role of the psychiatric expert as a healer and their role as an agent of social control. When a forensic psychiatrist assesses a prisoner for mental illness, or provides a risk assessment to a court, or recommends indefinite detention in a secure facility, they are acting as an agent of state power in ways that may not serve the interests of the person they are assessing. The question of whether forensic psychiatry is, at its core, a helping profession or a control profession is one that thoughtful practitioners must grapple with honestly. The history of psychiatry's use as an instrument of political repression, most notoriously in the Soviet Union where dissidents were diagnosed with "sluggish schizophrenia" and detained in psychiatric hospitals, provides a cautionary tale about the dangers of forensic psychiatry untethered from ethical foundations.

CHAPTER FIFTY-FIVE: MENTAL HEALTH LEGISLATION IN BANGLADESH: FROM THE LUNACY ACT TO THE MENTAL HEALTH ACT 2018

55.1 The Colonial Legacy: The Lunacy Act 1912

To understand the contemporary legal framework for mental health in Bangladesh, one must begin with the Lunacy Act 1912, because it is impossible to understand the present without understanding how thoroughly the present has been shaped by the past, and how powerful the past continues to be.

The Lunacy Act 1912 was enacted by the colonial administration of British India as a consolidating statute, drawing together earlier pieces of legislation on the management of "lunatics." It was not designed to promote the welfare of persons with mental illness or to protect their rights. Its primary purposes were administrative and custodial: to provide legal authority for the confinement of persons whose behavior was considered dangerous or disruptive, to regulate the management of asylum institutions, and to protect the property rights of persons deemed mentally incapable. The patients who were its subjects were conceived not as rights-bearing individuals with treatment needs but as dangerous, pitiable, or incapacitated objects of administrative management.

The Act's conceptual framework was entirely biomedical and custodial in character. It used the term "lunatic" throughout, a term derived from the ancient belief that madness was caused by the influence of the moon (luna), and it defined a lunatic as an idiot or person of unsound mind. This definition was simultaneously over-inclusive (it potentially covered anyone whose mental functioning deviated from social norms) and under-inclusive (it failed to provide for the many persons with significant mental disorders who were not "lunatics" in the traditional sense). It made no provision for treatment as a right, no provision for independent review of detention, and no provision for the involvement of detained persons in decisions about their own care.

The Lunacy Act 1912 survived the partition of British India in 1947, the creation of Pakistan, the liberation of Bangladesh in 1971, and more than four decades of independence, remaining formally in force until its repeal by the Mental Health Act 2018. This remarkable longevity was not the product of the Act's quality or relevance: it was the product of the extraordinary

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institutional inertia that characterizes mental health systems in countries where mental illness is stigmatized, underfunded, and politically marginalized. For over a century, the legal framework governing the lives of hundreds of thousands of Bangladeshis with serious mental illness was a colonial administrative instrument designed not for their benefit but for the convenience of their managers.

The practical operation of the Lunacy Act in Bangladesh over this century produced a system of care, if that word can be applied at all, that was characterized by institutional detention, minimal treatment, chronic underfunding, human rights violations including physical abuse, neglect, and chaining, and the near-total absence of community-based alternatives. The Pabna Mental Hospital, Bangladesh's largest and historically most important psychiatric institution, located in the town of Pabna approximately 140 kilometers from Dhaka, provided custodial care under conditions that independent observers consistently described as degrading and inadequate, with severe overcrowding, insufficient food, inadequate staffing, minimal therapeutic activity, and widespread use of physical restraint. The National Institute of Mental Health (NIMH) in Dhaka, established in 2001, provided a higher standard of care but served only a small fraction of the population in need.

Human rights organizations documented systematic violations of the rights of persons in psychiatric institutions in Bangladesh over many decades. Reports by organizations including Human Rights Watch, Amnesty International, and the Mental Disability Rights International described conditions in both government psychiatric hospitals and private nursing homes that fell far below acceptable standards. Of particular concern were reports of chaining of patients (a practice forbidden by international human rights standards but widely used in both institutional and community settings in Bangladesh), physical abuse by staff and by other patients, denial of adequate food and medical care, sexual abuse and exploitation, and the indefinite detention of persons who had recovered but had no family or community to return to.

The practice of chaining deserves special attention as both a human rights issue and a public health phenomenon. The practice of restraining persons with serious mental illness with physical chains or shackles, sometimes for months or years, is widespread in Bangladesh, as in many other low- and middle-income countries. It occurs in family homes, religious shrines, traditional healing institutions, and occasionally in formal psychiatric facilities. It is used as a method of managing dangerous behavior in the absence of effective pharmacological and psychosocial treatments, and in the context of the extreme resource constraints and limited professional capacity of the mental health system. The 2014 report by Human Rights Watch titled "Living in Chains," which documented the widespread use of chaining of persons with mental illness in Indonesia and several other countries, had resonance for Bangladesh where similar practices were observed. Chaining is not merely a human rights violation; it is a clinical disaster, causing physical injury, worsening psychiatric symptoms through the stress of confinement, preventing therapeutic engagement, and perpetuating the social exclusion and stigmatization of persons with mental illness.

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55.2 The Path to Reform: Advocacy, International Standards, and the Mental Health Act 2018

The movement toward reform of Bangladesh's mental health legislation gathered momentum over the first two decades of the twenty-first century, driven by a combination of domestic advocacy, international pressure, and the changing international normative landscape for mental health and disability rights.

The international normative framework for mental health and human rights underwent a fundamental transformation with the adoption by the United Nations General Assembly in 2006 of the Convention on the Rights of Persons with Disabilities (CRPD). Bangladesh signed the CRPD on 9 May 2007 and ratified it, along with the Optional Protocol, on 30 November 2007, making it one of the early signatories. The CRPD marked a fundamental paradigm shift in the way disability, including psychosocial disability arising from mental illness, was understood in international human rights law. Its foundational principle is not the protection of persons with disabilities from harm (the welfare model) or the accommodation of disabled persons within existing social arrangements (the integration model) but the full realization of all human rights and fundamental freedoms for persons with disabilities on an equal basis with others (the full inclusion model). The CRPD requires states parties to ensure that persons with disabilities have equal legal capacity with others in all aspects of life, and it has been interpreted by the CRPD Committee as requiring the abolition of substitute decision-making (guardianship) in favor of supported decision-making, and as prohibiting non-consensual psychiatric detention and treatment.

These CRPD provisions are profoundly challenging for existing mental health legislative frameworks everywhere, including in Bangladesh. They represent a more radical critique of coercive psychiatric practice than any previously embodied in a binding international legal instrument, and their implications for mental health systems that rely heavily on involuntary detention and treatment are enormous. The CRPD Committee's position, articulated in its 2014 General Comment on Article 12 (Equal Recognition Before the Law), that all forms of substitute decision-making for persons with disabilities, including guardianship and compulsory treatment orders, should be abolished and replaced with supported decision-making, has been deeply controversial, with most psychiatrists and mental health systems arguing that this position is clinically unrealistic and potentially harmful to persons with severe mental illness who lack the capacity to consent to treatment.

The WHO's Mental Health Gap Action Programme (mhGAP), launched in 2008, and the WHO Comprehensive Mental Health Action Plan 2013-2020 (extended to 2030) provided an international policy framework that, while less radical than the CRPD in its approach to coercive treatment, equally emphasized the need for rights-based, community-based mental health systems and the importance of eliminating abusive practices in psychiatric institutions.

Domestic advocacy for mental health law reform in Bangladesh was led by the Bangladesh Association of Psychiatrists (BAP), the Bangladesh Psychological Society, and various civil society organizations. Academic psychiatrists contributed significantly to the drafting process, engaging with the Ministry of Health and Family Welfare (MoHFW), drawing on comparative

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legislative frameworks from other South Asian and South-East Asian countries, and attempting to balance the need for legal authority for involuntary treatment in cases of severe mental illness with the requirement for adequate human rights safeguards.

The Mental Health Act 2018 (MHA 2018) was passed by the Bangladesh Parliament and signed by the President in September 2018. It replaced the Lunacy Act 1912 in its entirety and represented a significant step forward, though as we shall see, it also has important limitations.

55.3 The Mental Health Act 2018: Structure, Provisions, and Analysis

The Mental Health Act 2018 is structured in eleven chapters covering a total of sixty-eight sections. Its conceptual framework is broadly consistent with the principles of the WHO Mental Health Legislation Checklist, incorporating provisions for rights-based care, treatment categories, oversight mechanisms, and protections against discrimination, though its compliance with the more demanding requirements of the CRPD is incomplete and contested.

The definitional provisions of the Act are foundational to its operation. Section 2 defines "mental illness" as a substantial disorder of the mind or behavior which impacts a person's thinking, perception, orientation, or memory, and which grossly impairs their judgment, behavior, capacity to recognize reality or ability to meet the ordinary demands of life. This definition is broader than a purely diagnostic definition but requires substantial disorder and gross impairment, intended to exclude ordinary psychological distress and minor behavioral variations from the scope of the Act's compulsory powers. However, critics have noted that the definition is still potentially very broad and that "grossly impairs judgment or behavior" could encompass behaviors that might be better understood as expressions of cultural difference, political dissent, or unconventional lifestyle choices rather than genuine mental illness.

The Act classifies hospital admissions into three categories: voluntary, non-protesting, and involuntary. This tripartite classification represents a significant advance over the binary voluntary/compulsory framework of the Lunacy Act, recognizing an intermediate category that applies to persons who have mental illness but lack the capacity to form an opinion about their need for admission, and who neither consent to nor actively resist admission. Voluntary admission requires the written consent of the adult patient. For minors, the consent of parents or guardians is required. Voluntary patients retain the right to seek discharge at any time unless their admission status is changed to involuntary.

For a non-protesting patient, someone who has a mental illness but is incapable of giving an opinion about their admission or treatment, a guardian or relative may apply for admission, and the patient can be admitted on the basis of examination conducted by a responsible medical practitioner. The involuntary admission and treatment of unwilling patients, with or without an application by a guardian, relative, or police officer, is permitted once a psychiatrist certifies mental illness or mental disorder after considering the nature and severity of the illness and relevant matters, even though the intended person denies being mentally ill.

The oversight mechanism established by the Act is the Mental Health Review and Monitoring Committee (MHRMC), established at district level to review the rationality of admission and

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treatment of each psychiatric patient. The MHRMC is required to review voluntarily admitted adults every fifteen days, children every seven days, and non-protesting patients every twenty-eight days. Subject to periodic review by the MHRMC and recommendation of a responsible medical officer or psychiatrist, the period of involuntary admission for psychiatric treatment can range between three and twenty-eight days initially, and can be extended up to one hundred and eighty days or more, if needed.

The Act includes provisions on patients' rights that represent a significant advance over the Lunacy Act. Section 19 provides for the right of patients to receive treatment that is appropriate to their condition, to receive information about their diagnosis and treatment plan, to refuse treatment with some exceptions, to maintain confidentiality of their medical information, to communicate with the outside world and receive visitors, to make complaints about their treatment, and to be protected from abuse, exploitation, and unlawful confinement. These rights provisions are consistent with international standards and represent a genuine normative advancement. However, their practical implementation depends on the existence of adequate oversight mechanisms, trained staff, functioning legal aid systems, and a culture of rights-consciousness among service providers, none of which is fully developed in Bangladesh.

The Act's provisions on guardianship merit careful attention. Section 29 designates the father or mother as the natural guardian of a person with mental illness, and Section 30 permits the court to appoint a guardian for persons with mental illness who do not have a natural guardian or whose natural guardian is unable or unwilling to act. This guardianship framework is broadly in the tradition of substitute decision-making, whereby a guardian makes decisions on behalf of the person with mental illness rather than supporting them to make their own decisions. As noted above, this approach is inconsistent with the CRPD's requirement for supported decision-making, though the extent to which this inconsistency is practically significant depends on how the guardianship framework is implemented and whether it is used to override patients' expressed preferences in cases where they retain decision-making capacity.

The criminal liability provisions of the Act have generated considerable controversy within the psychiatric community in Bangladesh. Section 51 creates criminal liability for any person who provides a false certificate of mental illness, with penalties including imprisonment and a fine. The stated rationale for this provision is to prevent the misuse of psychiatric certification in disputes over property, inheritance, guardianship, custody, and marriage. Such misuse is a genuine concern in Bangladesh, where psychiatric certificates can in principle be used to remove legal rights from individuals on the basis of a diagnosis of mental illness, and where the low supply of psychiatrists may create opportunities for corruption and improper certification. However, the provision has been strongly criticized by psychiatrists, who argue that it creates a chilling effect that will deter psychiatrists from providing any certification in cases where there is uncertainty, thereby restricting access to mental health care for people who genuinely need it. In a country where there is less than one psychiatrist per million inhabitants, the fear of criminal prosecution for an incorrect diagnosis could significantly reduce the already woefully inadequate supply of psychiatric assessments.

The Act also includes provisions on forensic aspects, specifically Section 15, which permits the admission of mentally disordered defendants or sentenced mentally disordered offenders under

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the direction of a magistrate, through the use of a psychiatric examination. This provision creates a legal pathway for the diversion of mentally ill offenders from the criminal justice system into treatment, but its implementation depends on the availability of forensic psychiatric assessment services and forensic inpatient facilities that currently barely exist in Bangladesh.

55.4 Critical Analysis of the Mental Health Act 2018: Achievements, Gaps, and Controversies

The Mental Health Act 2018 represents a genuine and significant advance over the Lunacy Act 1912. It introduces a rights-based framework, provides for treatment categories that recognize gradations of capacity and consent, establishes oversight mechanisms, and creates enforceable rights for patients. These are not trivial achievements in a country with the institutional history and resource constraints of Bangladesh.

However, a critical analysis reveals several important gaps and controversies.

The first and perhaps most fundamental concern is the gap between the Act's provisions on paper and their implementation in practice. As of 2024, many of the Act's key provisions remain partially or wholly unimplemented. The Mental Health Review and Monitoring Committees have not been fully established in all districts. The National Mental Health Authority mandated by the Act to regulate the provision of mental health services has not been fully operationalized. Legal aid for persons subject to involuntary admission is not routinely available. The staff training required to implement the rights provisions in clinical settings has not been comprehensively delivered. Monitoring and enforcement mechanisms are weak. As a 2024 report on the state of mental health rights in Bangladesh concluded, the formal legal framework has advanced, but the infrastructure for implementing it lags far behind.

The second concern is the Act's relationship to international human rights standards, particularly the CRPD. As noted, the CRPD Committee's interpretation of the CRPD prohibits non-consensual psychiatric treatment and requires the replacement of guardianship with supported decision-making. The MHA 2018 explicitly permits involuntary admission and treatment and retains a guardianship framework. The extent to which this is a meaningful violation of Bangladesh's CRPD obligations is contested. Many psychiatrists and mental health legal scholars argue that the CRPD Committee's position is unrealistic and that some form of involuntary treatment is necessary to protect persons with severe mental illness from harm. Others argue that the CRPD represents a necessary break from a long tradition of rights violations and that the concept of supported decision-making, while challenging to implement, should be the aspirational framework even if it cannot be fully achieved immediately. These debates are not merely technical legal arguments; they reflect deep disagreements about the nature of mental illness, the meaning of autonomy, and the proper role of medicine and the state in responding to psychiatric crises.

The third concern is the Act's treatment of specific vulnerable populations. The provisions for children and adolescents are inadequate: the Act does not distinguish sufficiently between different age groups within the category of "minors," and it gives excessive authority to parents and guardians without providing for independent assessment of whether admission is in the

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child's best interests. The provisions for persons in the criminal justice system are rudimentary, providing a legal basis for psychiatric assessment of offenders but without the detailed procedural framework, the specialized facilities, and the trained personnel that an effective forensic psychiatric system requires. The provisions for the Rohingya refugee population are entirely absent, even though over a million forcibly displaced persons live in Bangladesh with mental health needs that are acute and largely unmet. The provisions for gender-diverse and sexual minority populations are similarly absent, despite evidence that these populations face particularly severe mental health burdens and face compounded discrimination within health care settings.

The fourth concern is the Act's conceptual approach to mental illness itself. While the Act's definition of mental illness is more sophisticated than the Lunacy Act's use of "lunatic," it remains broadly biomedical in orientation, defining mental illness primarily as a disorder of mind or behavior causing substantial impairment. This definition gives insufficient weight to the social and relational dimensions of psychological distress, to cultural variation in the expression of distress, and to the possibility that some experiences classified as mental illness may better be understood through non-medical frameworks. The risk of an overly broad application of the Act's compulsory powers to persons experiencing spiritual or religious distress, severe social difficulty, or non-normative behavior, is real and requires ongoing vigilance.

55.5 Other Relevant Legislation: The Penal Code, the Narcotics Control Act, and Related Statutes

Mental health intersects with a range of other legal frameworks in Bangladesh beyond the Mental Health Act 2018. The Bangladesh Penal Code 1860 (BPC), as noted, includes Section 84, the insanity defense, and also Section 85 (intoxication as partial excuse) and Section 86 (the more limited excuse of involuntary intoxication). Section 309 of the BPC criminalized attempted suicide until its repeal, and the question of whether attempted suicide should be decriminalized was a major advocacy issue in Bangladesh for many years. The legal status of attempted suicide has been changed, with Section 309 effectively no longer enforced, though the formal statutory position remained ambiguous as of 2024.

The criminalization of attempted suicide, which remained formally on the books in Bangladesh for decades after its repeal in most jurisdictions with similar legal traditions including India (which repealed Section 309 through the Mental Healthcare Act 2017) and England (which repealed the Suicide Act 1961), is a particularly vivid illustration of how punitive approaches to mental illness can persist in legal codes long after they have been recognized as counterproductive. The evidence is unequivocal: criminalizing attempted suicide deters help-seeking, compounds the distress of those who survive suicide attempts, and serves no deterrent function given that suicidal behavior is driven by severe psychological anguish rather than a calculation of legal consequences. The advocacy for decriminalization in Bangladesh, led by the Bangladesh Association of Psychiatrists and others, succeeded in changing enforcement practice even before formal statutory reform.

The Narcotics Control Act 1990 and its subsequent amendments govern the legal treatment of substance use disorders in Bangladesh. The Act takes a predominantly law enforcement

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approach to drug use, treating it primarily as a criminal matter and providing for imprisonment and fines for drug offenses. The provision of drug treatment is organized partly through the criminal justice system (mandatory treatment orders are possible) and partly through a network of government and private treatment centers. The limitations of a punitive approach to substance use disorders from a public health perspective are well established: criminalization drives drug use underground, prevents help-seeking, exposes users to increased health risks, and does nothing to address the underlying determinants of addiction. The movement toward decriminalization or depenalization of drug use for personal possession, and toward health-based approaches to substance use disorders, has gained significant momentum globally, though Bangladesh remains at an early stage in this transition.

The Disability Rights and Protection Act 2013 provides a framework for the protection of the rights of persons with disabilities, including persons with psychosocial disabilities. It prohibits discrimination on the basis of disability in education, employment, and public services, and provides for reasonable accommodation. Its implementation in the context of mental health has been limited, but it provides an important complementary legal framework to the MHA 2018.

CHAPTER FIFTY-SIX: CRIMINAL RESPONSIBILITY, MENTAL DISORDER, AND THE INSANITY DEFENSE IN BANGLADESH

56.1 Section 84 of the Bangladesh Penal Code: Text, History, and Interpretation

Section 84 of the Bangladesh Penal Code reads: "Nothing is an offence which is done by a person who, at the time of doing it, by reason of unsoundness of mind, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law."

This provision, as noted, derives directly from the M'Naghten rules. Its application in the Bangladeshi courts requires the defense to establish, on a balance of probabilities, three things: first, that at the time of the act, the accused was suffering from unsoundness of mind; second, that this unsoundness of mind rendered them incapable of knowing either the nature and quality of the act or that the act was wrong or contrary to law; and third, that there was a direct causal connection between the unsoundness of mind and the incapacity in question.

The concept of "unsoundness of mind" in Section 84 has been interpreted broadly by Indian and Bangladeshi courts to include not only psychiatric illness in the formal sense but also conditions such as epilepsy, severe intellectual disability, and temporary states of dissociation. However, the courts have consistently held that mere abnormality of mind, emotional disturbance, or the presence of a psychiatric diagnosis does not establish unsoundness of mind for the purposes of Section 84: the accused must have been so disturbed in their mental functioning at the time of the act that they were truly incapable of the relevant cognitive apprehension.

The burden of proof for the insanity defense in Bangladesh follows the general principle that the defense bears the burden of establishing the facts that support the exemption from liability, on a balance of probabilities. This is consistent with the position in England before the Criminal

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Procedure (Insanity) Act 1964, and with most South Asian jurisdictions. It differs from the approach in some other common law jurisdictions (such as Canada) where the prosecution must disprove the defense beyond a reasonable doubt once some evidence of insanity has been adduced.

The practical application of Section 84 in Bangladesh faces several major challenges. The first is the virtual absence of qualified forensic psychiatric assessment services. For a court to properly evaluate an insanity defense, it needs an expert assessment of the defendant's mental state at the time of the offense, a retrospective evaluation that is one of the most technically demanding tasks in all of psychiatry. This evaluation requires training in forensic methodology, access to detailed historical records, skilled clinical interviewing, and familiarity with the specific legal tests to be applied. Bangladesh has no certified forensic psychiatrists, and the forensic psychiatric assessments that are conducted are typically performed by general psychiatrists, or by general physicians with little psychiatric training, without specialized training in the legal and methodological requirements of forensic assessment. The quality and consistency of such assessments is inevitably variable.

The second challenge is the absence of appropriate facilities for mentally disordered offenders who are found not guilty by reason of insanity or who are unfit to stand trial. Section 335 of the Code of Criminal Procedure 1898 (CrPC), which applies in Bangladesh, provides that a person acquitted on grounds of insanity who is considered dangerous may be detained in safe custody in a place and manner determined by the government. In practice, this typically means transfer to the Pabna Mental Hospital or the forensic ward of NIMH. The fifteen forensic inpatient beds mentioned earlier represent the entirety of dedicated forensic psychiatric inpatient capacity for the entire country, a figure that is extraordinary in its inadequacy.

The third challenge is the failure of the legal system to provide any formal mechanism for the diversion of mentally ill defendants before trial, analogous to the diversion programs and community treatment orders that operate in more developed forensic psychiatric systems. The MHA 2018's provision for psychiatric examination of mentally disordered defendants (Section 15) provides a limited basis for diversion, but it has not been systematically implemented and the infrastructure for community-based treatment of diverted defendants does not exist.

56.2 Fitness to Stand Trial: An Underdeveloped Concept in Bangladeshi Law

In most developed common law jurisdictions, a defendant who is unable to understand the nature of the proceedings against them, to give meaningful instructions to their legal representative, or to enter a plea is considered unfit to stand trial and cannot be prosecuted until their fitness is restored or, if it cannot be restored, until an alternative disposal (such as detention in a psychiatric facility or absolute discharge) is arranged. The concept of fitness to stand trial (also called competency to stand trial in the American tradition) is legally and ethically distinct from criminal responsibility: it addresses the defendant's mental state at the time of trial, not at the time of the alleged offense.

The Bangladesh Code of Criminal Procedure addresses this issue in Sections 464 to 471, which provide for the examination of a defendant whose mental state appears to affect their ability to

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make a defense, and for the postponement of trial if the defendant is found to be of unsound mind. These provisions have the merit of existing, but they suffer from several limitations. They do not establish a clear and comprehensive definition of fitness for trial purposes. They provide no standardized assessment process or evaluation criteria. They make no specific provision for the treatment of defendants who are found unfit with a view to restoring their fitness. And they provide only for indefinite detention in safe custody for defendants found unfit who are considered dangerous, with no requirement for periodic review or time-limited detention.

In practice, the fitness provisions are rarely invoked in Bangladesh, partly because of the absence of qualified assessors, partly because the legal provisions are insufficiently precise to guide either practitioners or courts, and partly because the criminal justice system does not have a culture of proactively raising mental health issues in respect of defendants. The result is that many defendants with serious mental illness who are genuinely unfit to stand trial are nonetheless processed through the criminal justice system without appropriate assessment or accommodation, exposed to the trauma of criminal proceedings they do not understand, and unable to mount an effective defense.

A 2025 volume on forensic psychiatry in South Asia edited by Parmar, Kar, and Arafat highlighted these gaps as among the most pressing reform priorities for the region, and Bangladesh's contribution to that volume, authored by Arafat, emphasized the need for both legislative reform and institutional capacity development to address the current inadequacies.

56.3 Case Studies in Forensic Psychiatry: Bangladesh Scenarios

The following case studies are fictionalized composites, created to illustrate the practical challenges of forensic psychiatric work in Bangladesh while protecting the confidentiality of real individuals.

Case Study 54.1: The Insanity Defense in a Homicide Case

Karim is a 38-year-old man from a rural area of Sunamganj district. He had a history of several years of untreated psychiatric illness, characterized by auditory hallucinations, persecutory delusions, and increasingly disorganized behavior. He had never received formal psychiatric treatment; his family attributed his unusual behavior to possession by jinn, and had brought him to a local shrine on two occasions without lasting benefit. In an acute exacerbation of his psychotic illness, Karim killed a neighbor, believing that the neighbor was a supernatural agent who was poisoning his family and would kill his children. He surrendered to police immediately after the killing and told them that he had had no choice because God had instructed him to eliminate the demon.

At trial, the defense sought to raise Section 84 of the BPC. The court ordered a psychiatric examination, which was conducted by a general physician at the district hospital who had no specific psychiatric training. The physician reported that Karim "appeared confused and talked about spirits," but did not conduct a formal psychiatric assessment, did not assess the duration and nature of the psychotic illness, did not consider whether the psychotic symptoms were directly connected to the killing, and did not address the legal criteria under Section 84. On the

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basis of this inadequate report, the court found the evidence of insanity insufficient and proceeded to conviction.

This scenario illustrates the critical importance of qualified forensic psychiatric assessment for the proper operation of the insanity defense. Without an expert who can relate the defendant's mental state at the time of the offense to the legal criteria for insanity, the Section 84 defense is in practice inaccessible to the very people it is designed to protect.

Case Study 54.2: Fitness to Plead and the Rights of Defendants

Nasrin is a 24-year-old woman with a long history of severe bipolar disorder and intellectual disability. She was arrested on charges arising from an incident during a manic episode in which she assaulted a police officer. At the time of arrest, she was acutely manic, psychotic, and unable to give coherent information to police. By the time of her first court appearance, she had received medication and was partially stabilized, but she remained significantly cognitively impaired and was unable to understand the nature of the charges against her or to give any instructions to her legal representative.

The legal representative, newly qualified and unfamiliar with mental health law, did not raise fitness to plead and the case proceeded to trial. Nasrin sat through proceedings she did not understand, was unable to explain her behavior during the manic episode, and was convicted. She served a prison sentence in a facility with no psychiatric services, during which her bipolar disorder went untreated and her condition deteriorated markedly. She was eventually transferred to NIMH following a severe psychotic relapse.

This case illustrates the intersection of inadequate legal representation, absence of mental health training in the criminal justice system, and the human cost of failing to identify and address fitness issues in defendants with mental illness.

Case Study 54.3: The False Psychiatric Certificate Controversy

Abdur is a 68-year-old businessman from Dhaka with three children. Following a family dispute about property, two of his children sought to have him declared mentally incapacitated so that they could take control of his assets. They approached a private physician and, through a combination of financial inducement and social pressure, obtained a certificate stating that Abdur was suffering from dementia and was incapable of managing his affairs. Armed with this certificate, they applied to a court for guardianship.

Abdur, with the help of his third child, obtained an independent psychiatric assessment from a qualified psychiatrist at NIMH, who concluded that he had mild cognitive decline but retained full decision-making capacity. The fraudulent certificate was exposed, and the guardianship application was dismissed.

This case illustrates the real problem of false psychiatric certification that Section 51 of the MHA 2018 was designed to address. It also illustrates why a robust forensic psychiatric system,

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with qualified practitioners who can provide independent expert opinions, is essential not only for the criminal courts but for the civil legal system as well.

CHAPTER FIFTY-SEVEN: PRISON MENTAL HEALTH IN BANGLADESH: THE SCALE OF NEED AND THE INADEQUACY OF RESPONSE

57.1 Mental Disorder Among Prisoners: The Global Epidemiology

The relationship between mental disorder and incarceration is one of the most robust findings in the epidemiology of mental health. Across all countries and settings that have been systematically studied, the prevalence of mental disorders among prison populations is substantially higher than in the general population. A landmark systematic review by Fazel and Danesh, published in The Lancet in 2002, pooled data from sixty-two surveys across twelve countries and found that approximately one in seven prisoners had a psychotic illness or major depression, rates several times higher than in the general community. Subsequent studies have confirmed and extended these findings: substance use disorders are especially prevalent in prison populations, with rates typically five to ten times higher than in the general population. Antisocial personality disorder is also highly prevalent. Post-traumatic stress disorder, anxiety disorders, and intellectual disability are all significantly more common among prisoners than in the community.

The reasons for this elevated prevalence are complex and multidirectional. Persons with mental illness are at increased risk of behaviors that bring them into contact with the criminal justice system: disorganized behavior, poor judgment, substance use, homelessness, and vulnerability to exploitation by others who may use them in criminal activities. The criminal justice system in most countries, including Bangladesh, is poorly equipped to divert persons with mental illness away from prosecution and incarceration toward appropriate treatment. And prison conditions, including overcrowding, violence, loss of liberty, separation from family, and inadequate health care, both exacerbate pre-existing mental illness and generate new psychiatric disturbance in previously mentally healthy individuals.

57.2 Bangladesh's Prison System: Overcrowding, Conditions, and Mental Health Needs

Bangladesh's prison system is severely overcrowded and under-resourced. As of 2024, Bangladesh had approximately 70 prisons and detention centers with an official capacity of roughly 43,000 places, but housing approximately 80,000 to 100,000 persons, representing an occupancy rate of approximately 200 to 230 percent of official capacity. Remand prisoners, awaiting trial but not convicted, account for a large and historically growing proportion of the prison population, reflecting both the slowness of the justice system and the high rate of detention pending trial.

The physical conditions in many Bangladeshi prisons are seriously inadequate: overcrowding, inadequate sanitation, insufficient food, limited access to natural light and fresh air, and extreme

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heat in summer months. These conditions are harmful to the physical and mental health of all prisoners, and are particularly damaging for those with pre-existing mental disorders.

The mental health workforce within the prison system is essentially non-existent. As documented by several research studies, there are no psychiatrists or psychologists routinely visiting or assigned to Bangladesh's prisons. Prison medical officers, who have bachelor's level general medical training, can identify and refer prisoners with the most florid psychiatric symptoms, but they have limited training in psychiatric assessment and even more limited capacity to provide anything beyond basic medication management. A review of mental health services in Bangladesh's prisons published in a peer-reviewed journal found that prisoners with serious mental illness had access only to free essential psychotropic drugs, specifically first-generation antipsychotics, lithium, valproic acid, benzodiazepines, and amitriptyline, administered by non-specialist medical officers with no psychiatric training. Psychological therapies, social support, and rehabilitation services were entirely absent.

Studies of psychiatric morbidity in Bangladeshi prisons have found rates of mental disorder consistent with the global literature. A study by Chowdhury and colleagues in 1998 found a high prevalence of mental disorders among prisoners referred from jail to the forensic psychiatry department of NIMH. A study by Hasan and colleagues on the female prison population found significant psychiatric morbidity including psychotic disorders, mood disorders, and substance use disorders. A study by Hamid and colleagues found multiple types of psychiatric disorders among patients presenting to the forensic psychiatry department of NIMH, including psychoses, affective disorders, and various neurotic conditions.

These studies, while limited in their scope and methodological sophistication, paint a consistent picture: a large proportion of Bangladesh's prison population has significant mental health needs, and these needs are almost entirely unmet by the formal health care system.

57.3 Prison Suicide and Self-Harm: A Hidden Emergency

Prison suicide is a major and under-recognized public health problem in Bangladesh. Globally, suicide rates in prison populations are substantially higher than in the general population, typically five to ten times higher. The risk factors for prison suicide are numerous: the immediate shock of incarceration, the loss of liberty and social roles, shame and family disruption, pre-existing mental illness, history of substance use, anxiety about legal outcomes, and the traumatic conditions of many prisons.

Bangladesh does not have reliable national data on prison suicide rates. Official data on deaths in custody is not systematically published, and the distinction between suicide and other causes of death in custody is not always made or recorded. This data vacuum is itself a major problem: without reliable epidemiological data, it is impossible to assess the scale of the problem, identify high-risk periods and populations, or evaluate the impact of any preventive interventions.

What evidence exists suggests that suicide and self-harm in Bangladesh's prisons are significant problems that receive essentially no systematic attention. The absence of any mental health screening at prison reception, the absence of risk assessment for suicidal behavior, the absence

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of safe environments (physical ligature points in cells are a major risk factor for completed prison suicide by hanging), and the absence of crisis intervention capacity means that prisoners at risk of suicide are left without any protective framework.

The development of a prison suicide prevention strategy for Bangladesh would require several components: a reliable system for recording and reporting all deaths in custody, including with determination of cause; routine mental health screening at prison reception and at regular intervals during incarceration; a structured suicide risk assessment tool validated for use in Bangladeshi populations; a safe environment assessment and modification program; the training of all prison staff in suicide risk recognition and first response; and access to psychiatric consultation for all prisoners identified as high risk.

57.4 The Psychosocial Dimensions of Incarceration in Bangladesh

Beyond the specific clinical mental health problems of prisoners, incarceration in Bangladesh produces a range of psychosocial harms that deserve attention from both a psychiatric and a public health perspective.

Remand prisoners, awaiting trial without conviction, face particular psychological burdens. They experience all the stresses of incarceration without the psychological resolution of a legal verdict. They may spend years on remand before trial, a period during which they lose employment, income, housing, and often family relationships. The Bangladesh justice system, with its massive backlog of cases, means that remand detention is often extremely prolonged. A 2024 analysis of the Bangladeshi criminal justice system identified the pre-trial detention problem as one of the most serious human rights issues in the country, with hundreds of thousands of persons detained without conviction for extended periods.

Women in prison in Bangladesh face gendered forms of harm that are specific to their social context. Women are typically imprisoned at a distance from their families, making visiting extremely difficult. They may have dependent children who are left without care. They are vulnerable to sexual harassment and assault within custodial settings. They face intense social stigma on release, with damaged marriage prospects and family shame. Women who are imprisoned following charges arising from situations of domestic violence (for example, women who have killed abusive husbands) experience the particular injustice of being punished for the consequences of violence done to them.

The children of prisoners are among the most psychologically vulnerable of all those affected by incarceration. They experience the loss of a parent, often without adequate explanation, and face disruption of their care arrangements, economic hardship, and social stigma associated with having an imprisoned parent. The developmental and mental health consequences of parental imprisonment for children are well documented globally and represent a significant intergenerational transmission of disadvantage that the health and social welfare systems of Bangladesh are entirely unprepared to address.

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57.5 Reforming Prison Mental Health in Bangladesh: A Roadmap

The reform of prison mental health services in Bangladesh is both urgently necessary and enormously challenging. Given the resource constraints of the health system and the very low baseline of current provision, a realistic reform agenda must be phased, pragmatic, and aligned with the broader development of the mental health system.

The immediate priorities should include: the systematic collection of data on mental disorders in the prison population and on deaths in custody, to establish the baseline and track progress; the development and piloting of a mental health screening tool for use at prison reception; the development of a collaborative protocol between the prison service and NIMH for the assessment and transfer of prisoners with serious mental illness; and the training of prison medical officers in the recognition and basic management of common mental disorders.

Medium-term priorities should include: the development of mental health in-reach services, in which qualified mental health professionals visit prisons regularly to conduct assessments and provide treatment; the integration of mental health into the general health care provision for prisoners; the development of prison-based psychological support groups and structured therapeutic activities; and the development of a liaison between the prison service, the courts, and community mental health services to support the reintegration of released prisoners with mental illness.

Longer-term priorities should include: the development of adequate forensic inpatient facilities for the assessment and treatment of mentally disordered offenders; the training of a cadre of forensic psychiatrists who can serve the courts and the prison system; and the development of diversion schemes that allow persons with mental illness to be diverted from prosecution and incarceration into community-based treatment at an early stage of their criminal justice involvement.

The international experience, particularly from low- and middle-income countries that have made progress in developing prison mental health services, demonstrates that task-sharing approaches, in which trained but non-specialist workers provide a significant proportion of mental health care under the supervision of specialists, can substantially extend coverage at relatively low cost. The experience of the demonstration projects in Ethiopia, India, and Pakistan, all contexts with resource profiles broadly comparable to Bangladesh, provides practical models that can be adapted for the Bangladeshi context.

CHAPTER FIFTY-EIGHT: HUMAN RIGHTS IN PSYCHIATRIC PRACTICE: PRINCIPLES, ABUSES, AND THE PATH TO REFORM

58.1 The Human Rights Framework for Mental Health

The human rights framework for mental health has been substantially developed over the past three decades, driven by advocacy from disability rights organizations, the testimony of people

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with lived experience of mental illness, and the progressive development of international human rights law. The key instruments are the Universal Declaration of Human Rights (1948), the International Covenant on Civil and Political Rights (1966), the International Covenant on Economic, Social and Cultural Rights (1966), the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1984), the Convention on the Rights of the Child (1989), and, most importantly for mental health, the Convention on the Rights of Persons with Disabilities (CRPD, 2006).

The CRPD is the most relevant and most transformative of these instruments for psychiatric practice. Its key provisions for mental health can be summarized as follows. Article 12 requires that persons with disabilities, including psychosocial disabilities, enjoy legal capacity on an equal basis with others in all aspects of life, and that states provide appropriate support to enable persons with disabilities to exercise their legal capacity. The CRPD Committee has interpreted this as requiring the replacement of substitute decision-making (guardianship) with supported decision-making, and as prohibiting non-consensual psychiatric treatment. Article 14 prohibits deprivation of liberty on the basis of disability, which the CRPD Committee has interpreted as prohibiting psychiatric detention based on mental illness. Article 15 prohibits torture and other cruel, inhuman, or degrading treatment, which is relevant to a range of psychiatric practices including the use of physical restraint, prolonged isolation, and nonconsensual electroconvulsive therapy. Article 17 protects the integrity of the person. Article 19 guarantees the right to live independently and be included in the community, which is particularly relevant to deinstitutionalization and the development of community-based services.

It should be acknowledged that the CRPD Committee's positions, particularly on legal capacity and involuntary treatment, are among the most contested in international human rights law. Most psychiatrists and mental health systems regard the CRPD Committee's absolute prohibition on any form of nonconsensual treatment as clinically unrealistic and potentially harmful, arguing that there are genuine emergencies in which a person lacks the capacity to consent to treatment that they urgently need, and that some form of legal mechanism for providing that treatment in such circumstances is both necessary and ethically defensible. This is a genuine and important debate, and it is one that the mental health field in Bangladesh, as elsewhere, needs to engage with seriously rather than dismissing.

58.2 Documented Human Rights Violations in Bangladesh's Mental Health System

Despite the progress represented by the MHA 2018, serious human rights violations in the mental health system of Bangladesh continue to be documented. The most significant of these are:

Physical restraint and chaining. The use of chains, ropes, and other physical restraints on persons with mental illness continues in family homes, religious shrines, traditional healing settings, and, occasionally, in formal healthcare settings. A 2014 Human Rights Watch report documented chaining in several countries in the region, and subsequent research in Bangladesh has confirmed that the practice persists on a significant scale. The psychological and physical harm caused by chaining is severe: it causes injuries including abrasions, infections, and musculoskeletal damage; it worsens psychiatric symptoms; it prevents engagement with

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therapeutic activities; and it constitutes a serious violation of the right to personal integrity and the prohibition on cruel and degrading treatment. The drivers of chaining are primarily the absence of effective treatments (pharmacological and psychosocial), the absence of adequate institutional facilities for people in acute psychiatric crisis, and the desperate pragmatism of families who have no other means of managing severely disturbed relatives.

Conditions in psychiatric institutions. Human rights monitoring of Bangladesh's formal psychiatric institutions, particularly the Pabna Mental Hospital, has documented conditions including severe overcrowding, inadequate nutrition, insufficient clothing, poor sanitation, physical abuse by staff, sexual abuse, inadequate psychiatric treatment, and the indefinite detention of patients who have recovered but have nowhere to go. A State of Mental Health Rights in Bangladesh report published in 2024 assessed conditions against international standards and found significant gaps, particularly in the areas of informed consent, least restrictive alternative, and periodic review of detention.

Sexual violence and exploitation. Women in psychiatric institutions are particularly vulnerable to sexual violence and exploitation. There are documented cases of sexual abuse of female patients in formal psychiatric institutions in Bangladesh, by both staff and other patients. The response of the institutions to such incidents has often been inadequate, with little accountability for perpetrators and insufficient protection for survivors.

Neglect and abandonment in institutions. A significant number of patients in Bangladesh's psychiatric hospitals have been abandoned by their families and have no community to return to. They may remain in hospital for years, even decades, long after their acute psychiatric condition has resolved, because there is nowhere for them to go. These "long-stay" patients represent a profound institutional failure, reflecting the absence of any meaningful system of social care, supported housing, or community-based rehabilitation for persons with serious mental illness.

Inappropriate treatment. Concerns about the overuse of high-dose antipsychotic medications, the underuse of psychosocial treatments, the inappropriate use of electroconvulsive therapy (ECT) without appropriate consent, and the prescription of medications without adequate monitoring of side effects are common in informal accounts of psychiatric care in Bangladesh, though systematic data is limited.

58.3 Stigma as a Human Rights Issue

The stigma associated with mental illness is among the most pervasive and damaging human rights issues in Bangladesh's mental health landscape. Stigma is not merely an attitude problem; it is a structural phenomenon that generates concrete violations of fundamental rights including the rights to education, employment, housing, marriage, and participation in public life.

The research on stigma in Bangladesh is consistent in finding high levels of social distance, negative stereotyping, and discriminatory behavior toward persons with mental illness across the population. Studies have found that people prefer not to live near, work with, or marry into families with mental illness. Employers routinely refuse employment to persons known to have a history of psychiatric hospitalization. Schools and universities may informally exclude students

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with known mental disorders. The marriage market, which remains the primary framework for family formation for most Bangladeshis, is deeply hostile to persons with mental illness: disclosure of a psychiatric history can render a person unmarriageable, and the fear of this consequence drives many families to conceal mental illness at all costs, including by avoiding formal psychiatric treatment.

Stigma operates not only in external social environments but also internalized within the person with mental illness as self-stigma: the adoption of negative social attitudes toward oneself, producing shame, low self-esteem, and a reluctance to seek help or pursue life goals. The psychological costs of self-stigma are enormous, and they compound the direct distress caused by the psychiatric condition itself.

Anti-stigma programs in Bangladesh are in their infancy. There have been some initiatives by the Bangladesh Association of Psychiatrists, by NGOs, and by the media to promote mental health awareness and reduce stigma, but these have been of limited scale and limited duration, and their impact has not been systematically evaluated. The evidence from high-income countries suggests that the most effective anti-stigma approaches involve direct contact with persons with lived experience of mental illness, particularly contact in which people with lived experience are portrayed as competent, capable individuals rather than as victims, and that sustained, multi-component programs are more effective than single campaigns. Adapting and implementing such programs at scale in Bangladesh requires both resources and a sustained political commitment to mental health as a human rights priority.

58.4 The Rights of Specific Populations: Women, Children, the Elderly, and Minorities

Women with mental illness in Bangladesh face compounded vulnerability arising from the interaction of mental disorder with gender inequality. The legal framework provides insufficient protection against the specific abuses that women with mental illness are vulnerable to, including forced marriage, coerced sterilization, sexual violence, exploitation of domestic labor within custodial settings, and the dismissal of women's accounts of abuse as symptoms of mental illness. The MHA 2018 does not specifically address the gendered dimensions of mental health care, and there is no national gender-sensitive mental health policy framework.

Children with mental illness are particularly vulnerable to educational exclusion, family shame, and the denial of appropriate developmental support. The rights of children in psychiatric institutions require specific protection, including the right to continue education, the right to family contact, the right to play and recreation, and the right to protection from abuse by staff and other children. The MHA 2018's provisions for children's rights in psychiatric settings are skeletal and require substantial development.

Older adults with dementia and severe mental illness are among the most neglected populations in Bangladesh's health and social welfare system. The law does not adequately address the specific decision-making capacity issues that arise in dementia, and there is no systematic framework for advance care planning, supported decision-making, or the protection of older adults with dementia from financial exploitation, which is a significant problem.

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Indigenous and ethnic minority populations, particularly the communities of the Chittagong Hill Tracts, face specific vulnerabilities in mental health care arising from cultural and linguistic barriers, geographic remoteness, historical trauma from conflict and displacement, and the near-total absence of culturally appropriate mental health services. The human rights framework for mental health must specifically address the right to receive mental health care in one's own language and within one's own cultural framework, as required by Articles 9 and 30 of the CRPD and by the UN Declaration on the Rights of Indigenous Peoples.

The Rohingya refugee population presents perhaps the most acute and concentrated human rights crisis in Bangladesh's mental health landscape. Over one million people, virtually all of whom have experienced severe trauma including killing, rape, forced displacement, and the destruction of their communities, live in conditions of extreme deprivation in the world's largest refugee camp in Cox's Bazar. The right to mental health care is a fundamental human right, and its denial to this population on a massive scale is an ongoing humanitarian emergency. The UN Guiding Principles on Internal Displacement and the UNHCR's mental health guidelines both affirm the obligation of host countries to ensure access to basic mental health care for refugee populations, though the practicalities of implementation in the Cox's Bazar context present enormous challenges.

CHAPTER FIFTY-NINE: CAPACITY, CONSENT, AND INVOLUNTARY TREATMENT: ETHICAL ANALYSIS AND CLINICAL PRACTICE

59.1 The Concept of Decision-Making Capacity

Decision-making capacity is one of the most important and most frequently misunderstood concepts in psychiatric practice. It is the capacity to make a specific decision at a specific time, and it is therefore different from general competence (which is a legal concept referring to the global status of a person as a legal agent) and from intelligence (which is a relatively stable cognitive characteristic). A person may have decision-making capacity for some decisions but not others; they may have capacity at one time but not at another; and the assessment of capacity must be specific to the particular decision being made.

The most widely used model of decision-making capacity assessment, derived from the work of Appelbaum and Grisso and endorsed by most mental health ethics guidelines, identifies four components of decision-making capacity: understanding (the ability to comprehend information about the proposed treatment, including its nature, purpose, benefits, risks, and alternatives); appreciation (the ability to recognize that the information being provided is relevant to one's own situation, and to understand its implications for oneself); reasoning (the ability to engage in a process of weighing the available information and arriving at a decision through a process of rational deliberation); and expression of a choice (the ability to communicate a stable decision). Capacity is assessed by evaluating the person's performance on each of these components in relation to the specific decision at issue.

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Several aspects of this framework are particularly important in the Bangladesh context. First, the standard of capacity assessment must be calibrated to the decision at hand: a more rigorous assessment is required for decisions with higher stakes or greater risk of harm (for example, refusing a treatment that is likely to prevent serious deterioration) than for decisions with lower stakes (for example, choosing what to eat or when to exercise). Second, the assessment of capacity must take into account the potential contribution of psychiatric symptoms to the impairment of each component: delusions can impair appreciation (because the person's interpretation of the information may be distorted by delusional beliefs), psychosis can impair reasoning, severe depression can impair reasoning and appreciation through cognitive distortions, and severe agitation can impair expression of choice. Third, capacity assessment must be conducted with cultural sensitivity: concepts of self, autonomy, and appropriate decision-making differ across cultural contexts, and a person from a collectivist culture who defers to family members in medical decisions is not thereby demonstrating incapacity, as long as that deference is voluntary.

In Bangladesh, formal capacity assessment is not routinely conducted in psychiatric practice. Clinical decisions about involuntary treatment are typically made on the basis of the clinical judgment of the treating psychiatrist, guided by the MHA 2018 criteria, without any formal assessment of the patient's decision-making capacity with respect to the specific treatment in question. This is partly a matter of training (few Bangladeshi psychiatrists have received specific training in capacity assessment) and partly a matter of institutional culture (the tradition of medical paternalism means that patient refusal of recommended treatment has often been overridden without formal consideration of capacity). Developing a culture of capacity assessment in psychiatric practice in Bangladesh is an important component of the rights-based agenda.

59.2 Informed Consent in Psychiatric Practice in Bangladesh

Informed consent in psychiatry is at once more important and more difficult than in most branches of medicine. It is more important because the decisions being made, to take psychiatric medications with significant side effects, to engage in psychological treatments that involve the exploration of distressing experiences, to accept admission to a psychiatric facility, are decisions that profoundly affect the person's life and that should be made with full understanding and genuine freedom of choice. It is more difficult because the conditions being treated can impair the very capacities that consent requires, because the information to be conveyed is complex and not always certain, and because the social and relational context of consent in Bangladesh complicates the individualistic model of consent that standard medical ethics frameworks assume.

The individualistic model of informed consent that dominates Western bioethics holds that the adult patient, as an autonomous agent, has the right to make decisions about their own medical care free from interference by others, including family members and physicians, and that the physician's obligation is to provide sufficient information to enable the patient to make an informed choice and then to respect that choice. This model has real virtues: it protects patients from paternalism and from the imposition of medical values that may conflict with their own values and preferences.

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However, in the Bangladeshi context, the individualistic model of consent may be culturally incongruent and practically difficult to implement. Bangladesh is a society characterized by strong collectivist values in which major life decisions are typically made within the family unit rather than by individuals in isolation. The concept of "family consent" for medical procedures is deeply embedded in clinical practice, even in cases where the patient has full decision-making capacity and the family's views may not reflect the patient's own preferences. This creates a particular challenge for psychiatric consent, because the psychiatric patient's family may have interests that conflict with the patient's: for example, a family may want a patient who is acutely psychotic to be involuntarily admitted to hospital because they are disrupted by the patient's behavior, while the patient may not want admission; or a family may want a patient who has recovered to remain in hospital because they are ashamed of their condition and do not want them to return to the community.

The ethical response to this challenge is not to abandon the principle of individual consent but to develop a more sophisticated, culturally adapted model of the consent process. This model would acknowledge the legitimate role of family members in supporting decision-making, while maintaining the patient's right to make the final decision about their own treatment, and providing protection against situations in which family preferences override the patient's expressed wishes. This is consistent with the CRPD's concept of supported decision-making, which allows for support in the exercise of legal capacity while maintaining the principle that the final decision belongs to the person themselves.

59.3 Involuntary Treatment: Ethical Principles, Legal Criteria, and Clinical Practice

The involuntary treatment of persons with mental illness against their expressed will is one of the most ethically contentious practices in all of medicine. It involves the direct overriding of personal autonomy, which is a fundamental value in both liberal political philosophy and biomedical ethics. Its justification requires meeting a demanding ethical standard, and the conditions under which it is justified must be precisely defined, carefully monitored, and subject to independent review.

The main ethical frameworks for justifying involuntary psychiatric treatment rely on some combination of three arguments. The first is the incapacity argument: if a person lacks the decision-making capacity to refuse treatment, then treatment is not genuinely "involuntary" in the morally relevant sense, because the refusal is not the product of an autonomous choice. This argument is widely accepted by both legal and ethical frameworks, though it requires careful assessment of capacity as described above. The second is the welfare argument: even a person who retains decision-making capacity may be so severely ill that their capacity for rational self-governance is sufficiently compromised to justify overriding their current preference in the interest of their long-term welfare. This argument is more controversial and must be applied with great care to avoid becoming a license for unlimited medical paternalism. The third is the third-party protection argument: involuntary treatment may be justified when the person's illness makes them a significant danger to others, and this danger cannot be adequately managed in any less restrictive way. This is the most widely accepted justification and the one that is least ethically controversial, though the criteria for assessing "danger to others" must be carefully defined to prevent over-inclusive application.

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The MHA 2018 provides criteria for involuntary admission and treatment that draw on all three of these justifications, but without clearly distinguishing them or providing specific procedures for each. The broad language of the Act gives psychiatrists significant discretion in the application of the involuntary treatment criteria, which is both necessary (given the heterogeneity of clinical situations) and potentially problematic (given the absence of robust oversight mechanisms).

International evidence on the outcomes of involuntary psychiatric treatment is complex and contested. On the one hand, there is evidence that early access to treatment, even when initially involuntary, can improve outcomes for some persons with psychosis and severe mood disorder, particularly in contexts where the alternative to hospital admission is complete absence of treatment. On the other hand, there is substantial evidence of harm from involuntary treatment, including trauma (many persons experience involuntary admission as a deeply traumatic event that damages their trust in the mental health system), violation of dignity, deterioration of the therapeutic alliance, and the long-term reluctance to seek help following a coercive experience. Research from high-income countries suggests that the threshold for involuntary admission is heavily influenced by the availability of alternatives: when good community-based crisis services exist, the rate of involuntary admission falls substantially, because crises can be managed in less restrictive settings. The implication for Bangladesh, where community-based crisis alternatives do not exist, is that the demand for involuntary admission may be partly a product of the system's failure to provide appropriate alternatives rather than of the inherent clinical necessity for compulsion.

59.4 Advance Directives and Supported Decision-Making: Future Directions

Advance directives in mental health, sometimes called Psychiatric Advance Directives (PADs) or advance statements, allow persons with mental illness to document their preferences for treatment in the event of a future psychiatric crisis in which they may lack the capacity to express those preferences contemporaneously. They can specify what treatments the person wants and does not want, who should make decisions on their behalf if they become incapacitated, and any other relevant information about their values and preferences.

The 2024 State of Mental Health Rights in Bangladesh report recommended the introduction of advance directives as a component of a rights-based mental health system in Bangladesh. Advance directives are consistent with the CRPD's supported decision-making framework, because they allow the person to exercise their legal capacity in advance, before incapacity occurs. They also have practical benefits: they can reduce conflict between patients and families or clinicians about treatment preferences, improve the therapeutic alliance, and potentially reduce the trauma of involuntary treatment by ensuring that treatment accords with previously expressed preferences.

The legal basis for advance directives in Bangladesh is currently unclear. The MHA 2018 does not specifically provide for them, and there is no general legislation on advance healthcare directives in Bangladesh. Developing a legal and procedural framework for psychiatric advance directives would require legislative reform, professional education, and the development of practical tools and processes for their use in clinical settings.

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Supported decision-making, more broadly, refers to a range of arrangements by which persons with cognitive or psychosocial disabilities are supported in making their own decisions rather than having decisions made for them. Supports can include trusted persons who help the individual understand information and make decisions, communication supports for persons with communication difficulties, and peer support from persons with lived experience of similar conditions. The CRPD envisions supported decision-making as the primary framework for ensuring the legal capacity of persons with disabilities, replacing the traditional guardianship model.

The development of supported decision-making frameworks in Bangladesh faces both cultural and institutional challenges. The strong family orientation of Bangladeshi society means that informal versions of supported decision-making are already common, in the sense that many persons with mental illness rely heavily on family members for support in navigating health care and legal systems. The challenge is to formalize and regulate these informal support relationships in ways that ensure they genuinely serve the person's own will and preferences rather than substituting the family's preferences for the person's own.

CHAPTER SIXTY: COMMUNITY PSYCHIATRY AND PSYCHOSOCIAL REHABILITATION IN BANGLADESH

60.1 From Institution to Community: The Global Trajectory and Bangladesh's Different Starting Point

The global movement from institutional psychiatric care toward community-based services, which began in the 1950s and 1960s in high-income countries, has been one of the most significant policy developments in twentieth-century mental health. As described in the opening chapters of this textbook, deinstitutionalization in high-income countries was driven by a combination of the psychopharmacological revolution, changing values regarding the rights and dignity of persons with mental illness, the community mental health movement, and fiscal pressures. The results were mixed: in settings with adequate community support, community care produced better outcomes and greater autonomy for people with serious mental illness; in settings with inadequate community support, deinstitutionalization produced homelessness, revolving-door hospitalization, incarceration, and neglect.

Bangladesh's situation is fundamentally different. As noted throughout this textbook, Bangladesh has never had a large institutional psychiatric system: the two specialist hospitals, Pabna Mental Hospital and NIMH, together have approximately 700 dedicated inpatient psychiatric beds for a population of 170 million. The great majority of people with serious mental illness in Bangladesh have never been institutionalized and are managed within families and communities, often with little or no access to formal health care. For Bangladesh, the challenge is not to manage the transition from institution to community, but to build community-based services where they barely exist, in a context where the baseline of formal provision is extremely low.

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This means that the conceptual framework of "deinstitutionalization" is not directly applicable to Bangladesh. What Bangladesh needs is not an alternative to institutional care, but a system of community-based care that is integrated into the existing primary health care and community development infrastructure, that is appropriate to the cultural and social context of Bangladeshi communities, and that can provide effective support for persons with serious mental illness and their families at a scale commensurate with the magnitude of need.

Community psychiatry, in the Bangladesh context, refers to the full spectrum of mental health care provided outside specialist institutional settings. It includes the detection and basic management of common mental disorders (depression, anxiety, psychosis, substance use) in primary care, the provision of psychosocial support and rehabilitation for persons with serious mental illness in their communities, the training and supervision of non-specialist community health workers in mental health tasks, community-based interventions for suicide prevention, and the coordination of care across primary, secondary, and tertiary levels of the health system.

60.2 Psychosocial Rehabilitation: Concepts, Models, and Evidence

Psychosocial rehabilitation (PSR) refers to the range of interventions designed to support persons with serious mental illness in developing the skills and accessing the supports needed to lead satisfying and meaningful lives in the community. PSR is not primarily concerned with the elimination of symptoms, though symptom reduction is part of overall recovery; it is concerned with functioning, independence, quality of life, and the full participation of persons with mental illness in community life.

The World Association for Psychosocial Rehabilitation (WAPR) defines PSR as a process that facilitates the opportunity for individuals who are impaired, disabled, or handicapped by a mental disorder to reach their optimal level of independent functioning in the community. PSR combines individualized assessment and intervention with attention to environmental supports and barriers, and draws on multiple theoretical traditions including learning theory, developmental psychology, systems theory, and the recovery model.

The core components of PSR include: skills training, specifically training in the everyday living skills (such as self-care, domestic tasks, budgeting, and using public services) and social skills (such as communication, relationship formation, and conflict resolution) that serious mental illness can impair; cognitive remediation, which addresses the cognitive deficits in attention, memory, and executive function that are particularly prominent in schizophrenia and other severe mental illnesses; supported employment and education, providing support for persons with mental illness to access and maintain employment and educational opportunities; family education and support, providing information and skills to family caregivers and addressing the communication and coping patterns within families that can influence the course of illness; peer support, in which persons with lived experience of mental illness provide support and hope to others in recovery; and community support services, including case management, supported housing, crisis support, and access to physical health care.

The evidence base for PSR is substantial, particularly for supported employment (the Individual Placement and Support model has consistently outperformed vocational rehabilitation in

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randomized controlled trials across multiple settings) and for skills training programs in schizophrenia. Family psychoeducation programs have been shown to reduce relapse rates in schizophrenia by approximately 50 percent compared to standard care in multiple trials, making them one of the most effective interventions in all of psychiatry. Cognitive remediation therapy has a growing evidence base, particularly for improving functional outcomes in schizophrenia when combined with vocational rehabilitation.

60.3 PSR in Bangladesh: The Current Reality and the Available Evidence

PSR services in Bangladesh are in their very early stages of development. There is no national PSR program, no dedicated funding stream for PSR, and no established training pathway for PSR practitioners. What exists is a small number of NGO-led programs and international humanitarian programs (particularly in the Cox's Bazar setting) that incorporate elements of PSR alongside clinical mental health services.

The Centre for the Rehabilitation of the Paralysed (CRP), based in Savar near Dhaka, has developed a Meaningful Social Access for Persons with Mental Health Needs project that incorporates elements of PSR including skills training, family education, and supported community integration. The project represents a model for community-based rehabilitation that integrates mental health into a broader disability rehabilitation framework, consistent with the WHO's CBR approach.

The SAJIDA Foundation, a Bangladesh-based social enterprise, has developed an innovative residential community rehabilitation program called PROSHANTI (a Bangla word meaning peace or harmony) that provides supported community living for persons with severe mental illness who have been abandoned or marginalized. PROSHANTI received recognition from the WHO South-East Asia Region in 2024 for its innovative approach. In its pilot phase, seven residential homes were established in Habiganj and Manikganj districts, supporting forty residents with a multidisciplinary team led largely by non-specialist assistants providing daily care and mentorship. Some residents have progressed to taking on assistant roles in clinics, while others are preparing for employment. The program exemplifies the recovery model in practice, showing that with appropriate support, persons with severe mental illness can achieve meaningful recovery and contribute to their communities.

The demonstration that high-quality community rehabilitation for severe mental illness is achievable in Bangladesh, even with very limited resources, is an important finding that provides a proof of concept for national scale-up. The challenge is to move from these promising pilots to a national system that can reach the millions of Bangladeshis who need PSR services.

60.4 The Task-Sharing Approach: Training Non-Specialists in Mental Health

The most promising approach to scaling up mental health care in Bangladesh, including PSR, is the task-sharing or task-shifting strategy. Task-sharing, as defined by the WHO and operationalized in the mhGAP intervention guide, involves the systematic training of non-specialist health workers and community workers in the recognition, basic management, and follow-up of persons with mental disorders, under the supervision of specialists. It is based on

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the evidence that many effective mental health interventions, including basic psychoeducation, problem-solving counseling, behavioral activation, and supported adherence to medication, can be delivered effectively by trained non-specialists.

The mhGAP intervention guide provides specific protocols for the management of depression, psychosis, bipolar disorder, epilepsy, substance use disorders, suicide risk, and child and adolescent mental disorders in non-specialist settings. It has been extensively piloted in low- and middle-income country settings, including in South Asia, and the evidence for its effectiveness in improving access to mental health care is growing.

In Bangladesh, the mhGAP approach has been piloted in several settings, including primary health care centers in rural districts, with promising results for the detection and management of depression and psychosis. Studies have shown that primary care physicians trained in mhGAP protocols can significantly improve the detection and treatment of depression and anxiety, that community health workers (shasthya shabikas) trained in basic mental health skills can effectively follow up patients with mental disorders in the community, and that simplified family education programs for caregivers of persons with schizophrenia can reduce caregiver burden and improve patient outcomes.

The challenge of scaling up the task-sharing approach nationally requires several enabling conditions: the development of a national curriculum and training program for non-specialists in mental health; a supervision system that provides ongoing support and quality assurance for non-specialists; integration of mental health into the essential services package of primary health care; a referral system that enables non-specialists to refer complex cases to specialists; and a monitoring and evaluation system to track coverage, quality, and outcomes.

One of the most important potential vehicles for expanding mental health care in Bangladesh is the Community Clinic system, a network of approximately 18,000 community-level health facilities that are the primary point of contact for health care for a large proportion of the rural population. Each Community Clinic is served by a community health worker (the Shasthya Sahkarmee) and is intended to provide basic preventive and curative health services. Integrating mental health into the Community Clinic system, through the training of Shasthya Sahkarmees in basic mental health tasks and the establishment of referral pathways, could potentially extend the reach of mental health care to the most remote and underserved populations. Several small-scale pilots have demonstrated the feasibility of this approach, and the Bangladesh National Mental Health Strategic Plan 2020-2030 identifies the expansion of mental health services through the Community Clinic system as a priority.

60.5 Family-Based Interventions: Working with the Core Social Unit

In Bangladesh, the family is the primary system of care for persons with mental illness. When formal services fail or are inaccessible, it is families who provide care, manage crises, administer medications, and bear the social and economic costs of mental illness. This is simultaneously a strength (family care can be warm, persistent, and contextually appropriate) and a significant burden: the evidence on caregiver burden in Bangladesh is consistent with

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findings from other South Asian settings in documenting high levels of psychological, physical, social, and economic strain among family caregivers of persons with serious mental illness.

Family-based interventions in Bangladesh must address several distinct needs. First, families need psychoeducation: accurate information about the nature of the illness, its causes, its treatment, and its prognosis, to counter the misinformation and stigma that can distort family responses. A family that understands that schizophrenia is a medical condition that responds to medication and psychosocial support is in a fundamentally different and better position than a family that believes it is caused by spiritual possession and treatable only by ritual healing.

Second, families need communication and problem-solving skills: many of the difficulties that families experience in caring for a relative with mental illness are amenable to relatively straightforward skills-based interventions. Communication training, emotional regulation, problem-solving, and relapse prevention planning can all be taught in relatively brief, structured programs and have evidence of effectiveness in reducing caregiver burden and improving patient outcomes.

Third, families need practical support: the economic burden of mental illness is a major factor in caregiver strain and in the family's capacity to provide consistent care. Financial support, respite care, and access to social welfare services (however limited in Bangladesh) can reduce this burden and sustain family care over the long term.

Fourth, families need to be protected from being scapegoated for mental illness. The old family systems theories that attributed schizophrenia to pathological family communication (double-bind theory and the concept of the "schizophrenogenic mother") have been comprehensively discredited, and the evidence that family causal factors play a significant role in the etiology of schizophrenia is weak. However, the concept of "expressed emotion" (EE), which refers to the level of criticism, hostility, and emotional over-involvement expressed by family members toward the person with mental illness, has been consistently associated with relapse risk in schizophrenia and other serious mental illnesses. High EE is not primarily the product of family pathology but of the stress and frustration that naturally arise in families caring for a severely ill relative without adequate information or support. Family interventions designed to reduce high EE are therefore support interventions, not pathology-focused ones.

The development of culturally adapted family intervention programs for Bangladesh is an important research and clinical development priority. Several programs have been piloted, with culturally appropriate adaptations including the use of Bangla-language materials, the incorporation of family meetings within the clinical consultation, the involvement of religious leaders where appropriate, and the adaptation of psychoeducational content to reflect local explanatory models. These programs need to be more systematically developed, evaluated, and scaled up.

60.6 Supported Employment and Social Inclusion

Employment is one of the most powerful determinants of recovery for persons with serious mental illness. The evidence that employment improves self-esteem, social functioning, income,

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daily structure, and overall well-being for persons with serious mental illness is robust, and supported employment programs, particularly the Individual Placement and Support (IPS) model, have consistently demonstrated effectiveness in helping persons with serious mental illness obtain and maintain competitive employment.

In Bangladesh, the employment situation for persons with serious mental illness is very challenging. Stigma in the labor market is pervasive and severe. Persons with a known history of mental illness are routinely denied employment in the formal sector, including in the government, the formal private sector, and even in many NGOs. The informal sector, which employs the majority of Bangladesh's labor force, may be somewhat more accessible, but it offers precarious employment, low wages, and no job security or benefits. The absence of any anti-discrimination legislation that effectively protects persons with mental illness in employment (the Disability Rights and Protection Act 2013 exists but its enforcement in the employment sphere is minimal) means that discrimination faces no legal sanction.

Supported employment in Bangladesh would need to be adapted for the highly informal and family-based character of much of the country's economy. Rather than the IPS model's focus on competitive employment in the open labor market, adapted programs might focus on supporting persons with mental illness to participate in family enterprises, microenterprise development, agricultural activities, or community-based work programs. The Bangladesh Rural Advancement Committee (BRAC) has extensive experience in livelihoods programs for marginalized populations, and there may be scope for collaboration between BRAC and mental health organizations to develop livelihoods support programs specifically targeted at persons with serious mental illness.

Social inclusion more broadly, encompassing not only employment but also social participation, community membership, and civic engagement, is an important dimension of recovery. Many persons with serious mental illness in Bangladesh are profoundly socially isolated, excluded from social networks by the stigma of their condition, the behavioral consequences of their illness, and the poverty that frequently accompanies serious mental illness. Social prescribing, an approach developed in the United Kingdom and now gaining traction in other settings, involves linking people to community activities and resources that support their well-being, including social groups, volunteer activities, sports clubs, arts activities, and cultural events. Adapted versions of social prescribing, drawing on the rich community and religious life of Bangladeshi communities, could potentially provide a low-cost supplement to formal mental health services that addresses the social isolation dimension of serious mental illness.

CHAPTER SIXTY-ONE: MENTAL HEALTH POLICY AND PUBLIC HEALTH IN BANGLADESH: FROM STRATEGY TO IMPLEMENTATION

61.1 The Architecture of Mental Health Policy in Bangladesh

Mental health policy in Bangladesh is the product of multiple overlapping and not always well-coordinated institutional processes, operating across multiple ministries and at multiple levels of

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the health system. The primary institutional locus of mental health policy is the Ministry of Health and Family Welfare (MoHFW), specifically the Directorate General of Health Services (DGHS) and its Mental Health division. But mental health policy is also relevant to the Ministry of Social Welfare, which oversees social care and disability services; the Ministry of Education, which governs school mental health; the Ministry of Home Affairs, which oversees the prison system; the Ministry of Women and Children Affairs, which is responsible for services for women and children experiencing violence and abuse; and the Ministry of Disaster Management and Relief, which coordinates the response to natural disasters including their mental health consequences.

The Bangladesh National Mental Health Policy was first formulated in 2006 and has subsequently been updated. The National Mental Health Strategic Plan 2020-2030, developed by the DGHS with support from the WHO and other international partners, sets out a framework for the development of the mental health system over a ten-year period. Its stated goals include: increasing the coverage of mental health services through integration into primary health care; developing community-based mental health services; reducing stigma; strengthening the mental health workforce; improving mental health information systems; and ensuring the rights of persons with mental illness are protected.

This policy architecture is impressive on paper. The challenge is implementation. The gap between the ambitious goals stated in national mental health strategies and the reality of chronic underfunding, weak institutional capacity, limited political commitment, and poor coordination between relevant ministries is large and persistent. The mental health budget remains below 0.5 percent of the total health budget, compared to a WHO recommendation of at least 5 percent for low-income countries. The professional workforce remains grossly inadequate for the scale of need. The integration of mental health into primary health care, mandated by the Strategic Plan, has proceeded only in limited pilot areas. The monitoring and evaluation infrastructure needed to track progress against the Strategic Plan's targets is not yet in place.

61.2 Financing Mental Health in Bangladesh: The Funding Gap

The chronic underfunding of mental health in Bangladesh is a structural problem that reflects the low political priority accorded to mental health relative to other health concerns. The total national expenditure on mental health is estimated to be less than 0.5 percent of the health budget, which is itself low as a percentage of GDP. This translates to a per capita expenditure on mental health of approximately USD 0.20 to 0.30 per year, a figure that is scandalously inadequate relative to the scale of the mental health burden.

The consequences of this underfunding are visible throughout the system: the shortage of qualified mental health professionals, the inadequacy of psychiatric facilities, the absence of community-based services, the failure to implement the MHA 2018, and the near-total absence of psychosocial rehabilitation. The economic argument for increased investment in mental health is compelling: the cost of mental disorders in terms of lost productivity, increased use of general health services, family breakdown, educational underperformance, and criminal justice involvement is enormous, and substantially exceeds the cost of providing effective treatment.

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The case for increasing the mental health budget has been made repeatedly by the Bangladesh Association of Psychiatrists, the Bangladesh Clinical Psychology Society, public health advocates, and international organizations including the WHO. The response from the government has been limited, reflecting both the generally low political salience of mental health and the competing demands on the health budget from more politically prominent conditions including communicable diseases, maternal and child health, and non-communicable diseases.

One potential mechanism for expanding the resource base for mental health is the involvement of the private sector and non-governmental sector in service provision, alongside appropriate regulation to ensure quality and equity. Private psychiatric care is expanding in Bangladesh, particularly in urban areas, but it serves primarily the urban middle class and is inaccessible to the majority of the population. Regulatory frameworks for private mental health facilities are weak, and concerns about quality, exploitation of vulnerable patients, and the absence of rights-based care in some private settings have been documented.

International development assistance for mental health in Bangladesh has increased in recent years, particularly for programs in Cox's Bazar serving the Rohingya population, and through the support of the WHO, UNICEF, and various bilateral development agencies for the development of the national mental health system. However, development assistance is by nature temporary and uncertain, and cannot substitute for sustainable domestic financing.

61.3 Mental Health and the Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations member states including Bangladesh in 2015, includes mental health as a specific target within Sustainable Development Goal (SDG) 3 on health: SDG Target 3.4 calls for reducing premature mortality from non-communicable diseases by one-third and promoting mental health and well-being. Mental health is also highly relevant to SDG 1 (no poverty), SDG 4 (quality education), SDG 5 (gender equality), SDG 8 (decent work and economic growth), SDG 10 (reduced inequalities), and SDG 16 (peace, justice, and strong institutions).

Bangladesh has made significant progress on many SDG indicators, and mental health is increasingly recognized as relevant to the country's development agenda, particularly given the strong links between mental health and economic productivity, educational attainment, gender equality, and resilience to natural disasters and climate change. The Eighth Five-Year Plan of Bangladesh (2021-2025) includes some recognition of mental health as a development priority, and the alignment of mental health policy with the broader national development planning process is a positive development.

However, the integration of mental health into the SDG monitoring framework in Bangladesh remains limited, reflecting both the absence of reliable mental health data and the failure of mental health to be adopted as a specific indicator within Bangladesh's national SDG monitoring system. Developing mental health indicators for the national SDG monitoring framework, establishing baseline data, and tracking progress against targets would significantly strengthen the political case for investment in mental health.

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61.4 Public Mental Health: Population-Level Approaches to Prevention and Promotion

Public mental health refers to the application of public health principles and methods to the understanding and improvement of mental health at the population level. It encompasses the epidemiology of mental disorders, the identification of modifiable risk and protective factors, the development and evaluation of prevention and promotion interventions, and the use of policy as a lever for improving population mental health.

The public health model of mental health distinguishes between: universal prevention interventions, targeted at the entire population or a defined sub-population regardless of individual risk level; selective prevention interventions, targeted at sub-groups who are at elevated risk of mental disorders because of exposure to risk factors; and indicated prevention interventions, targeted at individuals who already show early signs or symptoms of mental disorder.

In Bangladesh, the most promising targets for population-level mental health intervention include: school-based mental health programs targeting children and adolescents; workplace mental health programs targeting workers in high-stress or high-risk industries including the garment sector; community-based programs for women and girls experiencing gender-based violence; disaster preparedness and psychological first aid programs for communities at risk of natural disasters; and programs addressing the mental health consequences of climate change and displacement.

School-based mental health programs are particularly important given the scale of the adolescent population and the evidence that many adult mental disorders have their onset in adolescence. Effective school-based programs address both the determinants of mental health (building social and emotional skills, positive school environments, and supportive relationships) and the early identification and support of students with emerging mental health problems. Several small-scale school mental health programs have been implemented in Bangladesh by NGOs and academic institutions, with promising early results, but a national school mental health policy and program does not yet exist.

The workplace mental health agenda is particularly relevant in Bangladesh given the size of the formal manufacturing sector, particularly the garment industry, which employs approximately 4 million people (predominantly women) under conditions that include high job demands, low control, inadequate wages, physical safety risks, and harassment. The mental health burden in this workforce is substantial, and there is growing evidence that employer-supported mental health programs, combining workplace interventions to reduce psychosocial risks with individual-level support for workers with mental health problems, can improve both mental health outcomes and productivity. The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) has begun to engage with mental health as a component of its worker welfare agenda, though the development of a comprehensive workplace mental health program remains a work in progress.

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61.5 Disaster Mental Health and Climate Change: Bangladesh's Specific Vulnerability

Bangladesh is among the countries most exposed to the mental health consequences of natural disasters and climate change. The Sundarbans region and the coastal areas are regularly affected by cyclones and storm surges. The major river systems, including the Padma, Meghna, and Jamuna, produce devastating floods that affect millions of people almost every year. Drought affects agricultural areas in the north and northwest. And the long-term process of climate change, manifesting in rising sea levels, saltwater intrusion, unpredictable rainfall, and increasing temperature, is already displacing populations and undermining livelihoods at a scale that will only increase in the coming decades.

The mental health consequences of these climate and disaster exposures are well documented. Acute disaster exposure, specifically cyclones, floods, and storm surges, produces PTSD, acute stress reactions, grief, and depression, particularly in individuals who lose family members, homes, or livelihoods. The Aila cyclone of 2009, Cyclone Amphan in 2020, and numerous other disasters have been associated with elevated rates of PTSD and depression in affected communities, documented by epidemiological studies conducted in their aftermath.

The mental health consequences of climate change are not limited to acute disasters. The slow-onset processes of climate change, including gradual sea level rise, saltwater intrusion, and increasing temperature, are associated with what climate psychologists call "solastalgia" (the distress caused by environmental change in one's home environment), livelihood loss, forced migration, and the cumulative stress of living under conditions of increasing insecurity and uncertainty. The concept of "climate anxiety," a diffuse but debilitating anxiety about the future of the planet and one's own safety and livelihood, is gaining recognition as a significant mental health phenomenon, particularly among young people who will bear the longest consequences of climate change.

The mental health response to disasters in Bangladesh has improved significantly over the past decade, partly driven by the experience of the international humanitarian response to the Rohingya crisis and partly by the development of national capacity for psychological first aid through training programs for health workers and community volunteers. The WHO Psychological First Aid (PFA) approach has been adapted for the Bangladesh context and trained health workers have been deployed following several major disasters.

However, the mental health response to chronic climate stress, as opposed to acute disasters, remains undeveloped. There are no national programs specifically addressing the mental health of climate-displaced populations, no integration of mental health into climate adaptation policies, and no systematic approach to building mental health resilience in communities facing high levels of climate vulnerability. The development of such programs is an urgent priority, both from a humanitarian perspective and as part of Bangladesh's overall climate adaptation agenda.

A 2025 paper published in Brain and Behavior by Arafat and Saleem, analyzing suicidal behavior in Bangladesh through an ecological systems framework, highlighted the complex interaction between environmental factors, social structures, and individual vulnerability in

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shaping mental health outcomes, and argued for a multi-level intervention approach that addresses the macro-level determinants (including climate and socioeconomic factors) alongside individual clinical factors.

61.6 Mental Health and the COVID-19 Pandemic: Lessons for Bangladesh

The COVID-19 pandemic, which struck Bangladesh in March 2020, had profound consequences for mental health at multiple levels. At the individual clinical level, COVID-19 infection was associated with neuropsychiatric consequences including delirium (particularly in elderly and severely ill patients), depression, anxiety, PTSD, and a range of cognitive symptoms collectively known as "long COVID" or "post-COVID syndrome." At the population level, the pandemic produced elevated rates of depression, anxiety, and suicide risk through multiple pathways: lockdowns and social isolation, economic hardship (Bangladesh's economy contracted significantly in 2020 for the first time in many years), bereavement (COVID deaths frequently occurred without the normal mourning rituals that Bangladeshi culture relies on to process grief), fear and uncertainty, and the disruption of health and social services.

The pandemic also had profound effects on the mental health system itself. Psychiatric outpatient services were disrupted by lockdowns and by the redirection of health system capacity toward COVID management. Inpatient psychiatric services operated under severe constraints. The supply of psychotropic medications was disrupted in some areas. And the mental health workforce was exposed to the same stresses as the general population while simultaneously managing an increased clinical burden.

Several lessons emerge from Bangladesh's COVID-19 experience for mental health preparedness planning. First, mental health must be explicitly included in epidemic and pandemic preparedness plans, not treated as an afterthought. The psychological consequences of large-scale health emergencies are predictable and quantifiable, and the health system needs plans in place before the emergency occurs. Second, digital mental health technologies, including telephone and internet-based counseling and psychotherapy, can provide important supplementary coverage during emergencies when face-to-face services are disrupted. Bangladesh's COVID experience stimulated rapid expansion of digital mental health services, including telephone helplines, that should be sustained and developed beyond the pandemic. Third, community-based mental health resources are more resilient to emergency disruption than centralized institutional services, providing another argument for developing community-based infrastructure. Fourth, the pandemic highlighted the particular mental health vulnerability of health workers, including psychiatrists, psychologists, nurses, and community health workers, who require specific mental health support and protection.

CHAPTER SIXTY-TWO: DIGITAL MENTAL HEALTH AND TECHNOLOGY IN BANGLADESH: OPPORTUNITIES AND ETHICAL CHALLENGES

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62.1 The Digital Revolution and Mental Health

Digital technologies are transforming every sector of health care, and mental health is no exception. The term "digital mental health" encompasses a wide range of technologies and applications: smartphone apps for mood monitoring, stress reduction, and psychoeducation; internet-based cognitive behavioral therapy and other psychotherapy programs; telehealth platforms for remote consultations; artificial intelligence (AI) tools for symptom detection and risk stratification; wearable sensors for passively monitoring physiological and behavioral indicators of mental health; social media platforms as both sources of harm and potential vehicles for mental health support; and large language model (LLM)-based conversational agents that provide information and supportive conversation.

The potential of digital mental health technologies for Bangladesh is significant. Bangladesh's smartphone penetration has grown rapidly, particularly among younger people in urban and peri-urban areas. Mobile internet connectivity has expanded substantially. And the extreme shortage of human mental health resources makes the possibility of technology-augmented care highly relevant. If a well-designed, evidence-based psychotherapy program can be delivered effectively through a smartphone app with minimal professional involvement, that is a potentially transformative expansion of the reach of effective mental health care.

However, the evidence base for digital mental health technologies is mixed and context-dependent. Systematic reviews and meta-analyses of smartphone app-based interventions for depression and anxiety have found modest effects, with significant heterogeneity between apps and between populations. The evidence for AI-based tools for mental health is largely in its early stages and primarily from high-income country settings. The effectiveness of any digital tool in Bangladesh will depend on multiple factors: the cultural appropriateness of the content, the language and literacy requirements, the stability of internet connectivity, the privacy and security of user data, and the degree to which the tool addresses the specific needs and preferences of Bangladeshi users.

62.2 Existing Digital Mental Health Initiatives in Bangladesh

Several digital mental health initiatives have been developed or piloted in Bangladesh, with varying degrees of success.

The Kaan Pete Roi (Bangladesh) emotional support telephone helpline, modeled on the Samaritans in the United Kingdom, provides anonymous telephone-based emotional support to persons in distress. It has provided thousands of calls over its years of operation and has been particularly active during periods of heightened stress including the COVID-19 pandemic and the political events of 2024. Its evidence of effectiveness has not been formally evaluated, but qualitative evidence suggests that it provides a valued service for persons who would not otherwise have any access to psychological support.

Several NGOs and academic institutions have developed and piloted mobile health (mHealth) platforms for mental health in Bangladesh. These have included SMS-based interventions for depression, smartphone apps for stress management and mindfulness, and tablet-based

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psychoeducational programs for caregivers of persons with schizophrenia. Evaluations of these pilot programs have generally found high acceptability and some evidence of benefit, though the evidence base is not yet sufficient to drive national implementation.

The COVID-19 pandemic accelerated the development of telehealth (remote consultation) services in Bangladesh, with several hospitals and private providers establishing video-consultation services for psychiatric outpatients. The rapid growth of telehealth raised important questions about the regulation, quality, and equity of remote psychiatric care. Remote consultations are accessible only to those with reliable internet connectivity and a suitable device, which disproportionately excludes rural and low-income populations. The quality of remote psychiatric assessment is limited by the absence of physical examination and by the difficulties of managing psychiatric emergencies remotely. And concerns about the privacy and security of sensitive mental health information shared through commercial telehealth platforms have been raised.

62.3 Artificial Intelligence in Mental Health: Possibilities and Pitfalls

Artificial intelligence applications for mental health are developing rapidly, driven by advances in machine learning, natural language processing, and the availability of large datasets of clinical and behavioral data. Potential applications include: AI-assisted diagnostic tools that analyze clinical interviews, behavioral data, or physiological signals to support diagnosis and risk stratification; AI-based chatbots and conversational agents providing psychoeducation and supportive conversation; predictive analytics tools for identifying individuals at high risk of relapse or suicide; and AI-based analysis of social media data to identify population-level mental health trends.

The potential benefits of these applications for Bangladesh are significant, particularly given the extreme shortage of human mental health professionals. AI tools that can support the initial screening, triage, and basic management of mental health problems by non-specialists could substantially extend the reach of the mental health system. However, the risks and ethical challenges are equally significant.

The most important risks include algorithmic bias: AI tools trained on data from high-income Western populations may not work as effectively or as safely when applied to Bangladeshi populations with different cultural expressions of distress, different healthcare-seeking patterns, and different languages and literacy levels. There is a substantial risk that AI tools imported from high-income country settings without adaptation and validation will perform poorly in Bangladesh, potentially causing harm through misclassification, missed diagnoses, or inappropriate recommendations.

Privacy and data security are major concerns in the context of AI-based mental health tools. Mental health data is among the most sensitive of personal information, and its collection, storage, and use by commercial entities raises serious concerns about surveillance, discrimination, and the potential use of mental health data in ways that are harmful to individuals, such as discrimination in employment or insurance. Bangladesh's data protection

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legal framework is underdeveloped, and there is no specific regulation of the collection and use of mental health data by digital technology providers.

A 2025 review in the Lancet Digital Health identified several critical research gaps for digital mental health in low- and middle-income countries, including the need for culturally adapted tools, equity analyses examining differential access and effectiveness across socioeconomic groups, robust evaluation of safety and effectiveness, and appropriate regulatory frameworks. These gaps are directly relevant to Bangladesh and underscore the importance of critical and evidence-informed adoption of digital mental health technologies.

CHAPTER SIXTY-THREE: MENTAL HEALTH OF SPECIFIC POPULATIONS IN LEGAL AND SOCIAL MARGINS

63.1 Mental Health of Persons Experiencing Homelessness

Bangladesh does not have extensive populations of "rough sleepers" in the Western sense, but large numbers of people live in conditions that are functionally equivalent: in extreme urban poverty, in temporary shelters, on riverbanks, or in conditions of severe housing insecurity. Persons experiencing homelessness or extreme housing insecurity are at extremely elevated risk of mental disorders, for multiple and reciprocal reasons: poverty and adversity are risk factors for mental illness; mental illness impairs the capacity to maintain stable housing and employment; and the conditions of street homelessness are highly traumatogenic and disruptive to mental health treatment.

The intersection of mental illness and housing insecurity in Bangladesh is a major unaddressed public health problem. Many of the "floating population" of Dhaka and other cities, who live in extremely precarious conditions in informal settlements, on railway platforms, and in other marginal spaces, have significant mental health needs. The formal mental health system has no specific outreach or service provision for this population.

The development of assertive outreach services, which proactively identify and engage persons with serious mental illness in community settings rather than waiting for them to present to clinical services, is an evidence-based approach to serving populations who would otherwise fall through the cracks. Adapted for the Bangladesh context, such services might combine community health workers with limited clinical supervision to identify persons with serious mental illness in urban slums and other at-risk settings, provide basic assessment and linkage to treatment, and support the development of a social care package that addresses housing, income, and social support alongside mental health treatment.

63.2 Mental Health of Migrant Workers

Bangladesh is one of the world's largest exporters of labor. Approximately 10 to 12 million Bangladeshis work abroad, primarily in the Middle East (Saudi Arabia, UAE, Qatar, Kuwait, Oman, Bahrain), but also in Southeast Asia, Europe, and North America. Remittances from these

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migrants account for approximately 6 to 7 percent of Bangladesh's GDP and are a major source of income for millions of families. However, the mental health costs of labor migration are substantial and largely unrecognized.

The migration process itself is associated with mental health stress at multiple stages: the debt incurred for recruitment fees (often amounting to several years' income), the anxiety of the pre-departure period, the adjustment challenges of living in a foreign country often with a different language and cultural environment, the isolation from family and social networks, the experience of workplace exploitation, discrimination, and abuse (which is extensively documented for Bangladeshi migrant workers in many destination countries), and the adjustment challenges of return migration.

The mental health needs of return migrants, particularly those who have experienced exploitation, abuse, or traumatic events abroad, are a growing concern. Some return migrants show significant mental health problems including PTSD, depression, substance use disorders, and functional impairment. The social reintegration challenges of return migrants, including debt, damaged family relationships, and difficulty finding employment, compound these mental health challenges.

The families left behind by migrating workers also experience mental health effects. Wives of migrant workers, in particular, often experience a paradoxical situation: improved economic resources but increased social isolation, increased responsibility for household and child management, and the emotional costs of extended separation from their partners. Studies have found elevated rates of depression and anxiety among wives of Bangladeshi migrant workers, particularly those who have poor social support, high debt burdens, or uncertain communication with their partners abroad.

The development of a mental health support system for migrant workers and their families is an important and poorly addressed priority. This should include: pre-departure mental health assessment and psychoeducation, providing migrants with information about mental health risks and resources; in-country support services in destination countries, which is a matter for negotiation between Bangladesh and destination country governments; and reintegration support for returning migrants, including mental health assessment, counseling, and linkage to vocational rehabilitation.

63.3 Mental Health of Persons with Sexual and Gender Minority Identities in Bangladesh

Sexual and gender minority (SGM) persons, including gay, lesbian, bisexual, and transgender individuals, face extreme social hostility and legal vulnerability in Bangladesh. Sexual acts between men remain criminalized under Section 377 of the Bangladesh Penal Code (inherited from the colonial Indian Penal Code), which is still in force despite its repeal in India by the Supreme Court in 2018. There is no legal recognition of same-sex relationships, no protection against discrimination on grounds of sexual orientation or gender identity, and significant social stigma and risk of violence for persons whose non-normative identities become known.

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The evidence from multiple countries is consistent: SGM persons experience significantly elevated rates of depression, anxiety, suicidal ideation, and self-harm compared to the general population, and this elevated mental health burden is substantially attributable to minority stress, that is, the chronic stress of social stigma, discrimination, violence, and the concealment of identity that minority status requires. In Bangladesh, where social hostility to SGM identities is particularly intense and where legal protection is entirely absent, the mental health burden associated with SGM status is likely to be among the highest in the world.

The hijra community, a socially recognized "third gender" category in Bangladesh, India, and Pakistan, presents a distinct situation. Hijras have a long cultural history in the region and a degree of social visibility that may provide a form of community belonging, but they also face extreme poverty, social marginalization, discrimination, and violence. The mental health of the hijra community in Bangladesh is poorly studied and mental health services specifically adapted for this community are essentially nonexistent.

Mental health services for SGM persons in Bangladesh face a fundamental challenge: they must be provided in a context where the identity of service users is itself stigmatized and criminalized. Providing mental health support for an SGM person in a standard clinical setting involves the risk of exposure, discrimination, and potentially legal jeopardy. The concept of "conversion therapy," which attempts to change a person's sexual orientation or gender identity, is harmful, ineffective, and internationally condemned, but there are concerns that it may be practiced by some mental health and religious practitioners in Bangladesh. Ensuring that mental health services for SGM persons are affirmative (providing support for the person's identity and well-being rather than attempting to change their identity) requires a fundamental shift in clinical culture that will take time to achieve.

CHAPTER SIXTY-FOUR: THE ROHINGYA MENTAL HEALTH CRISIS: SCALE, RESPONSE, AND LESSONS

64.1 The Scale and Nature of Trauma in the Rohingya Population

The mental health situation of the Rohingya refugee population in Cox's Bazar is one of the most severe and concentrated mental health crises in the world. Over one million Rohingya, the majority of whom fled a genocidal campaign by the Myanmar military in 2017, live in a complex of refugee camps in Cox's Bazar that together constitute the world's largest refugee settlement. The population is predominantly composed of women and children (many adult men were killed in the violence), and virtually all camp residents have been exposed to multiple forms of severe trauma.

The nature of the traumatic exposures documented among the Rohingya population is extraordinary in its severity. Surveys and clinical assessments conducted by humanitarian organizations have documented: witnessing or experiencing killing of family members; sexual violence including systematic rape as a weapon of war; burning of homes and villages; forced displacement and the experience of perilous sea crossings; loss of all possessions and

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livelihoods; destruction of community, religious, and cultural structures; and the ongoing psychological distress of living in a state of statelessness with no legal identity and no secure future.

The mental health consequences of these exposures are severe. Multiple epidemiological studies of the Rohingya population in Cox's Bazar have found very high rates of PTSD, major depression, and anxiety disorders. A study by the International Medical Corps found that 80 percent of a sample of Rohingya adults screened positively for PTSD, and rates of major depression were similarly high. Children and adolescents showed elevated rates of conduct problems, emotional disturbances, and developmental delays, partly attributable to the disruption of education and the impact of parental mental distress on parenting capacity.

The social and environmental conditions of life in the camps compound the mental health burden. The extreme overcrowding (population densities among the highest anywhere in the world), inadequate sanitation and water, limited access to livelihood activities, restrictions on movement, uncertainty about the future, and the ongoing risks from cyclones and fires (the camps are particularly vulnerable to both) create a chronically stressful environment that maintains high levels of psychological distress even in persons who have received some psychological support.

The ongoing inability to return home, the lack of legal status, and the denial of most civil and economic rights compound the trauma of the initial violence with a prolonged experience of loss, exclusion, and hopelessness. The concept of "post-migration living difficulties" captures the mental health impact of these ongoing deprivations, which research consistently finds to be as important a predictor of mental health outcomes as the initial traumatic exposures.

64.2 The Mental Health Response in Cox's Bazar

The mental health response to the Rohingya crisis in Cox's Bazar has been one of the most extensively developed humanitarian mental health responses in history, drawing on the experience of dozens of international and national organizations and the technical guidance of the Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings.

The Inter-Agency Standing Committee guidelines organize the humanitarian mental health response in a tiered pyramid. At the base of the pyramid are basic services and security, including physical safety, adequate food, water, and shelter, without which no mental health intervention can be effective. The second tier is community and family support, including activities that facilitate normal community and family processes, such as communal activities, peer support groups, and recreational programs. The third tier is focused non-specialist support, providing psychological first aid and brief interventions by trained community workers for those identified as needing additional support. The fourth and smallest tier is specialist services, providing clinical assessment and treatment for the minority of people with severe mental disorders.

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Multiple organizations have implemented programs at different tiers in Cox's Bazar. International and national NGOs including WHO, UNHCR, UNICEF, International Medical Corps, Medecins Sans Frontieres, Action Contre la Faim, and dozens of others have provided mental health and psychosocial support (MHPSS) services. The Bangladesh government's formal health system has been involved through the facilities of the Civil Surgeon's Office in Cox's Bazar.

Despite this extensive response, the mental health needs of the Rohingya population remain enormously under-served. Multiple assessments have documented a persistent gap between need and coverage: the majority of Rohingya with diagnosable mental disorders have not received any formal mental health assessment or treatment. The barriers include: the very limited number of specialist mental health professionals available in Cox's Bazar; the linguistic and cultural barriers to effective mental health service provision (Rohingya is a distinct language from Bangla, and cultural frameworks of distress among the Rohingya differ from both Western psychiatric frameworks and Bangladeshi cultural frameworks); the distrust of formal institutions arising from the persecution experience; and the continued priority given to acute medical and other humanitarian needs over mental health.

A systematic review of MHPSS interventions for the Rohingya population published in 2024 found that while many programs had been implemented, the evidence base for their effectiveness was limited, with few programs having been rigorously evaluated. The review identified the need for culturally adapted, trauma-informed, and evidence-based MHPSS programs that are embedded within the broader social and protection framework for the Rohingya, that prioritize community-based approaches over individual clinical treatment, and that address the ongoing post-migration stressors as well as the historical trauma.

The potential return of the Rohingya to Myanmar, if and when conditions permit, will create new mental health challenges related to reintegration, the processing of historical trauma, the negotiation of accountability for past atrocities, and the rebuilding of community structures. The global experience of post-conflict mental health reconstruction suggests that this process will require sustained, long-term investment in community-based mental health and psychosocial support, community reconciliation processes, and transitional justice mechanisms that acknowledge and address the harm done.

CHAPTER SIXTY-FIVE: MENTAL HEALTH ETHICS IN CLINICAL PRACTICE: SPECIFIC DILEMMAS IN THE BANGLADESH CONTEXT

65.1 Confidentiality and Its Limits in Bangladesh

The principle of confidentiality is fundamental to the therapeutic relationship in psychiatry. Patients disclose sensitive information about their thoughts, emotions, behaviors, and experiences in the expectation that this information will not be shared with others without their consent. Breaches of confidentiality can cause serious harm: loss of employment, stigmatization, family conflict, and legal consequences. They also undermine the trust that is essential for

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therapeutic engagement and for the broader willingness of people with mental illness to seek help.

In Bangladesh, the cultural context creates specific challenges for confidentiality. The strong family orientation of Bangladeshi society means that families frequently expect to be fully informed about the diagnosis and treatment of a family member with mental illness, and may be distressed or resentful if they feel excluded from clinical information. Clinicians face the dilemma of respecting the patient's right to confidentiality while managing the expectations of family members who may be providing essential care and support. The appropriate response is not to breach confidentiality without consent, but to negotiate with the patient about what information can be shared with family members and to facilitate informed involvement of family members in ways that respect the patient's autonomy.

There are well-established exceptions to confidentiality in psychiatric practice. The most significant is the duty to warn and protect, derived from the Tarasoff case in the United States and incorporated into the ethics guidelines of psychiatric associations in many countries. When a patient discloses a credible and specific intention to harm an identified third party, and this intention cannot be managed within the therapeutic relationship alone, the clinician has an obligation to take steps to protect the potential victim, which may include warning the victim, informing police, or seeking involuntary hospitalization. In Bangladesh, this duty is not explicitly codified in the MHA 2018, but it is recognized in professional ethics guidelines and reflects a widely shared moral intuition that the protection of third parties from serious harm takes precedence over the duty of confidentiality in extreme circumstances.

The protection of children from abuse and neglect creates another important exception to confidentiality. When a clinician has reason to believe that a child is being or is at risk of being abused or neglected, they have an ethical obligation, and in some jurisdictions a legal one, to report this to appropriate authorities. In Bangladesh, mandatory reporting requirements for child abuse are not well established, and the child protection system to which such reports would be made is poorly developed. However, the ethical obligation to protect children from harm remains, and clinicians should develop their own clear practice guidelines for managing disclosures of child maltreatment.

65.2 The Ethics of Electroconvulsive Therapy in Bangladesh

Electroconvulsive therapy (ECT) is a highly effective treatment for certain severe psychiatric conditions, including treatment-resistant depression, severe bipolar disorder with mixed features or rapid cycling, catatonia, and psychosis that is not responsive to medication. The evidence for its effectiveness in these conditions is strong, and it is endorsed by international psychiatric guidelines as a first-line treatment for severe treatment-resistant depression and for life-threatening psychiatric emergencies.

In Bangladesh, ECT is available in NIMH and some other specialized facilities, and it is used in clinical practice. However, its use has been associated with ethical concerns that deserve explicit attention. The most significant concern is the adequacy of informed consent. ECT is a procedure that requires fully informed consent, including information about the nature of the

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procedure, its evidence base, its side effects (including acute confusion and memory impairment), its alternatives, and the right to refuse. There have been reports from several South Asian settings, including Bangladesh, of ECT being administered without adequate informed consent, or without any consent, particularly in cases where families have consented on behalf of patients who retain decision-making capacity. This represents a serious ethical and rights violation.

Modern ECT, administered under general anesthesia with muscle relaxation, is considerably safer and more comfortable than the historical portrayals that have created public fear of the procedure. The association of ECT with its mid-twentieth-century use as a non-modified (no anesthesia, no muscle relaxant), unmodified procedure and with its depiction in films such as "One Flew Over the Cuckoo's Nest" has created a powerful negative public image that is not reflective of contemporary practice. Overcoming these negative associations while maintaining genuine ethical standards for consent is an important clinical and communications challenge.

The ethical practice of ECT in Bangladesh requires: the development and consistent application of a comprehensive informed consent process; the availability of good quality anesthesia and modern ECT equipment; the training of psychiatrists in both the clinical indications for ECT and the ethical and procedural requirements; and the development of oversight mechanisms to ensure that ECT is being administered appropriately and with proper consent in all settings where it is used.

65.3 The Commercialization of Mental Health Care and Its Ethical Implications

The growth of the private mental health sector in Bangladesh, while expanding access for some, also raises important ethical concerns. Private psychiatric care in Bangladesh operates largely outside a robust regulatory framework. There are concerns about the overuse of medications (particularly high-dose antipsychotics) in some private settings, driven by the economic incentives of pharmaceutical company relationships with private practitioners. There are concerns about the quality and training of practitioners in some private facilities. There are concerns about the exploitation of vulnerable patients and families who may be induced to spend large amounts of money on treatments of uncertain benefit. And there are concerns about the growing market for private "rehabilitation" and "de-addiction" centers, some of which operate without adequate regulatory oversight, without trained staff, and with conditions that may involve abuse and rights violations.

The regulation of the private mental health sector requires a comprehensive licensing and accreditation framework, rigorous standards for staffing and clinical practice, transparent mechanisms for complaints and accountability, and a culture of professional self-regulation within the psychiatric and psychological communities. Developing this regulatory framework is a priority for the Mental Health Act 2018's implementing authority, the National Mental Health Authority, but the pace of regulatory development has been slow.

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CHAPTER SIXTY-SIX: THE FUTURE OF FORENSIC AND COMMUNITY MENTAL HEALTH IN BANGLADESH: A ROADMAP FOR 2030

66.1 Vision and Principles for a Rights-Based Mental Health System

The vision for Bangladesh's mental health system in 2030 should be grounded in four core principles that reflect both the global movement toward rights-based mental health care and the specific priorities of the Bangladesh context.

The first principle is rights-based care: all mental health services should be organized around the rights of persons with mental illness rather than primarily around clinical or administrative convenience. This means implementing the MHA 2018 fully, ensuring independent oversight of all compulsory admissions, developing advance directives and supported decision-making frameworks, eliminating abusive practices in all settings, and aligning Bangladesh's legal framework with its CRPD obligations.

The second principle is accessibility and equity: mental health care should be available to all Bangladeshis who need it, regardless of where they live, how much they earn, what language they speak, or what cultural background they come from. This requires substantial expansion of community-based services, integration of mental health into primary health care, development of culturally adapted services for minority populations, and a substantial increase in the mental health budget.

The third principle is quality and effectiveness: mental health services should be based on the best available evidence for effectiveness, and clinicians should be trained to a high standard and supported to practice in accordance with international guidelines. This requires investment in training, supervision, continuing professional development, research, and quality improvement.

The fourth principle is recovery-orientation: the goal of the mental health system should be not merely the management of symptoms but the support of full recovery, understood as living a meaningful and self-directed life in the community, regardless of the severity of the underlying condition. This requires the development of PSR services, peer support programs, supported employment and housing, and the full involvement of persons with lived experience in the design and governance of mental health services.

66.2 Specific Priorities for Forensic Psychiatry

Forensic psychiatry in Bangladesh requires development on multiple fronts. The immediate priorities for the coming five years should include: the establishment of a specialized training program in forensic psychiatry at BSMMU or another appropriate institution; the expansion of forensic inpatient capacity beyond the current fifteen beds to a minimum of one hundred beds, distributed across the major regions of the country; the development of a national protocol for the forensic psychiatric assessment of defendants in criminal proceedings, including a standardized assessment tool and reporting format; the training of all judges and lawyers in basic mental health literacy, including awareness of the insanity defense, fitness to stand trial, and the mental health needs of defendants; the development of mental health court diversion

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programs, starting with a pilot in Dhaka and Chittagong; and the establishment of a prison mental health in-reach service in the major prisons.

Longer-term forensic priorities should include: the reform of Section 84 of the Bangladesh Penal Code to reflect contemporary understandings of the relationship between mental illness and criminal responsibility, including provision for diminished responsibility and for the volitional dimension of mental incapacity; the development of a comprehensive statute governing the legal treatment of mentally disordered offenders throughout the criminal justice process; the establishment of a register of forensic psychiatric cases to support research and quality improvement; and the development of community-based forensic mental health programs, including assertive outreach for mentally disordered offenders who have been diverted from incarceration.

66.3 Building the Evidence Base: Research Priorities

Bangladesh's ability to develop an evidence-informed mental health system depends on the development of a robust research infrastructure. The current state of mental health research in Bangladesh is limited: there are few adequately funded research programs, the academic infrastructure for clinical and epidemiological research is underdeveloped, and the contribution of Bangladeshi researchers to the global mental health literature, while growing, remains small relative to the scale of the country's mental health burden.

The research priorities for forensic and community mental health in Bangladesh include: epidemiological studies of mental disorders in the prison population, using validated instruments and rigorous sampling methods; evaluation studies of the implementation of the MHA 2018, examining both process and outcome measures; qualitative research on the experiences of persons with mental illness within the legal system; development and evaluation of culturally adapted forensic psychiatric assessment tools; research on the effectiveness of task-sharing approaches for mental health in community settings; and health economics research on the cost-effectiveness of different approaches to expanding mental health care coverage.

International research partnerships will be essential for building this evidence base. Several Bangladeshi researchers and institutions have already established productive partnerships with researchers at international institutions including the University of Liverpool, the University of Bristol, LSHTM, and Johns Hopkins. These partnerships need to be expanded and sustained, with an emphasis on building local research capacity rather than merely incorporating Bangladeshi sites into studies designed abroad. The global mental health movement's commitment to equity in research, summarized in the concept of "Research Fairness," requires that the design, conduct, interpretation, and dissemination of mental health research in Bangladesh reflect the priorities, values, and perspectives of Bangladeshi communities and researchers, and not only the research agendas of high-income countries.

66.4 The Political Economy of Mental Health Reform

No analysis of the future of mental health in Bangladesh would be complete without acknowledging the political economy that shapes what is and is not possible. Mental health

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reform requires political commitment, financial resources, and organizational capacity. All three are in short supply in Bangladesh's political system, for reasons that are structural rather than simply the product of individual failures.

Mental health lacks the political constituency that drives the health policy agenda for other conditions. People with mental illness and their families are among the most politically marginalized in Bangladesh: stigmatized, economically disadvantaged, under-organized, and without effective voice in the political process. The Bangladesh Association of Psychiatrists, the Bangladesh Clinical Psychology Society, and various NGOs do advocacy work, but the political weight of the mental health sector is modest compared to, for example, the pharmaceutical industry, the garment sector, or the powerful organized professions of medicine and law.

The governance challenges of mental health reform are also significant. Mental health policy requires coordination across multiple ministries, as noted above, and coordination failures are endemic in the Bangladeshi government bureaucracy. The implementation of the MHA 2018 requires a National Mental Health Authority that has not been fully constituted or resourced. The development of community mental health requires changes in the primary health care system that involve multiple actors, including the health directorate, medical education, the nursing profession, and community health workers, with different institutional interests and incentive structures.

Political commitment to mental health can be built through a combination of advocacy, evidence, and coalition-building. The evidence on the economic costs of mental illness, while imperfectly quantified in Bangladesh, provides a strong argument for investment that speaks the language of economic planners and finance ministry officials. The human rights framework for mental health, embodied in the CRPD and the Sustainable Development Goals, provides a normative argument that is increasingly influential in international development discourse. And the growing advocacy by persons with lived experience of mental illness, articulating their own experiences and demanding better care, provides the most powerful and authentic voice for change.

The political events of 2024 in Bangladesh, in which the student-led uprising brought down the Sheikh Hasina government and ushered in a transitional administration under the interim government of Nobel laureate Muhammad Yunus, created an unusual political moment. The new political environment, with its emphasis on reform, accountability, and the inclusion of previously marginalized voices, offers an opportunity for mental health advocates to advance the agenda for mental health reform in ways that may not have been possible in the previous political environment. Whether this opportunity will be seized depends on the capacity of the mental health advocacy community to organize effectively, develop a compelling and actionable policy agenda, and engage constructively with the transitional political processes underway.

CHAPTER SIXTY-SEVEN: PHILOSOPHICAL AND THEORETICAL SYNTHESIS: FREEDOM, COERCION, AND THE ETHICS OF CARE

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67.1 The Liberal Tradition and Its Limits in Psychiatric Ethics

The liberal political philosophy tradition, stemming from John Locke, John Stuart Mill, and their successors, places individual liberty at the center of its value system. Mill's harm principle, articulated in "On Liberty" (1859), holds that the only legitimate grounds for interference with the liberty of an individual against their will is to prevent harm to others. This principle has been enormously influential in the development of mental health law, providing the philosophical basis for involuntary commitment (which is justified on the grounds of danger to others) while challenging the justification for "therapeutic" coercion of persons who are a danger only to themselves.

However, the application of liberal theory to psychiatric ethics is complicated by the ways in which mental illness can compromise the very autonomy that liberal theory is designed to protect. A person in the grip of a severe psychotic episode, who believes that the police are trying to kill them and that the medication they are being offered is poison, and who flees in terror from the treatment that might restore their rational agency, is not making an autonomous choice in the sense that liberal theory values. The "freedom" that consists in being left untreated to deteriorate, lose all social connections, and potentially die, is not the kind of freedom that liberalism is designed to protect. As the philosopher Alan Buchanan has argued, respecting the autonomy of persons who currently lack autonomy requires paying attention to the conditions under which their autonomy can be restored, which may sometimes require temporary overriding of their currently expressed preferences.

This argument does not provide a blank check for coercion: it requires careful assessment of actual decision-making capacity, rigorous procedural safeguards, and a genuine commitment to restoring and respecting autonomy at the earliest possible opportunity. But it does suggest that a mechanical application of the harm principle, which treats any interference with a person's expressed preferences as a violation of liberty regardless of their mental state, is philosophically inadequate and clinically irresponsible.

In Bangladesh, the philosophical debate about coercion and autonomy takes on a specific cultural dimension. The concept of individual autonomy, central to Western liberal ethics, is not equally central in Bangladeshi cultural and moral frameworks, which place greater emphasis on relational and collective values, family obligation, and communal responsibility. This does not mean that autonomy is irrelevant in Bangladesh: the CRPD's insistence on legal capacity and self-determination reflects universal values of human dignity that transcend cultural context. But it does mean that the implementation of autonomy-respecting care in Bangladesh must be sensitive to the relational context in which decisions are made, and must find ways of honoring both individual rights and the legitimate role of families and communities in supporting persons with mental illness.

67.2 The Therapeutic Relationship as the Foundation of Ethical Practice

Amid all the legal, institutional, and philosophical frameworks for mental health care, it is easy to lose sight of the fact that the therapeutic relationship between clinician and patient is the foundation on which all ethical psychiatric practice rests. Without a relationship of trust,

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respect, and genuine therapeutic engagement, the most sophisticated diagnostic systems, the most effective medications, and the most elaborate legal safeguards will fail.

The therapeutic relationship in psychiatry is built on several core qualities that the philosopher of psychiatry and medicine James Phillips has identified as constitutive of good clinical practice: empathy (the capacity to enter into the patient's subjective experience without losing one's own perspective); respect for the patient's dignity and personhood; intellectual humility (acknowledging the limits of one's own knowledge and the genuine uncertainty of clinical judgment); collaborative engagement (working with the patient rather than on them); and sustained commitment (remaining present and engaged even when progress is slow or the clinical picture is discouraging).

These qualities cannot be created by laws or protocols, though they can be supported or undermined by the organizational culture of mental health services. The development of a mental health system in Bangladesh that is genuinely therapeutic, not merely custodial, requires attention to the human dimensions of care, including the training of practitioners in the interpersonal and communication skills that good clinical practice requires, the creation of organizations that support staff well-being and reflective practice, and the development of a culture that values the patient's perspective and experience as central to the work of mental health care.

The recovery model, as described earlier in this textbook, places the therapeutic relationship within a framework that explicitly values the patient's agency, self-determination, and the importance of hope. The evidence on the role of therapeutic optimism in psychiatric practice is compelling: practitioners who genuinely believe in the possibility of recovery, and who communicate this belief to their patients, achieve better outcomes than those who convey hopelessness or determinism. In a country with Bangladesh's history of psychiatric neglect and institutional failure, cultivating therapeutic optimism among clinicians, patients, and their families is not a trivial undertaking. It requires creating the conditions under which recovery is possible: adequate treatment, social support, opportunities for meaningful participation, and the protection of rights. Without these conditions, optimism would be hollow. With them, it becomes the foundation of a genuinely therapeutic mental health system.

67.3 Social Justice and Mental Health: The Structural Determinants of Psychiatric Illness

The social justice tradition in mental health, articulated by public health scholars, critical psychiatrists, and community activists, insists that mental illness is not primarily an individual misfortune but is substantially the product of unjust social structures. Poverty, inequality, discrimination, violence, and the denial of basic social goods produce psychological suffering at a scale that dwarfs the contribution of any individual biological or psychological vulnerability. The response to this suffering cannot be confined to clinical interventions addressed at individuals: it must include the transformation of the social structures that generate suffering.

This position is not anti-clinical; it does not deny the importance of effective clinical care for individuals who are suffering from mental disorders. But it insists that clinical care without attention to structural determinants is inadequate, and that a mental health system that focuses

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exclusively on individual treatment while ignoring the social determinants of mental illness is both ineffective and unjust.

For Bangladesh, the social justice analysis of mental health is particularly salient. The mental health burden of Bangladesh is substantially the product of structural factors: poverty, gender inequality, climate vulnerability, political violence, historical trauma, and the gross inadequacy of the social safety net. Reducing this burden requires not only expanding clinical services but also addressing these structural factors through progressive economic policy, the empowerment of women, the reduction of violence, climate adaptation, and the development of an adequate social protection system.

The engagement of psychiatrists and mental health professionals in advocacy for social justice is not a distraction from clinical work; it is an essential complement to it. A psychiatrist who treats depression in women who are repeatedly subjected to domestic violence without also advocating for better legal protection against domestic violence, better social support services, and a broader social response to the violence is addressing only part of the problem. The integration of clinical excellence and social advocacy is the hallmark of a mature and ethically committed mental health profession.

CHAPTER SIXTY-EIGHT: COMPREHENSIVE CASE STUDIES FOR PART FOURTEEN

The following case studies are fictionalized composites designed to illustrate the complex intersection of forensic, legal, ethical, community, and rehabilitation dimensions of mental health in Bangladesh.

Case Study 68.1: Forensic Assessment and the Insanity Defense

Rubel is a 28-year-old man from Manikganj who has been living with paranoid schizophrenia for approximately seven years, largely untreated because of his family's financial constraints and their initial reliance on traditional healing. He was admitted to Pabna Mental Hospital once, three years before the events described here, following an acute psychotic crisis, but was discharged after three weeks on oral antipsychotics without adequate follow-up, and gradually discontinued his medication over the following months. His family noticed increasing deterioration in his mental state over the subsequent year, including increasing suspiciousness, social withdrawal, and strange behavior, but were unable to afford private psychiatric care and the local health centre had no mental health services.

In an acute psychotic episode, Rubel attacked and seriously injured a neighbor, believing that the neighbor was part of an organized conspiracy to kill him and his family. He surrendered to police, telling them that he had acted in self-defense against supernatural agents who were controlling the neighbor's body. He was charged with attempt to murder.

At the trial, the defense applied to have Rubel psychiatrically assessed. The court appointed a general physician from the local hospital, who visited Rubel in custody and submitted a two-

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paragraph report stating that Rubel was "confused and believed in supernatural things" but could not provide an assessment of his mental state at the time of the offense or an opinion on the legal criteria for Section 84.

The defense engaged a psychiatrist from NIMH, who conducted a comprehensive assessment including a detailed clinical history, collateral history from family members, review of the hospital records from the previous admission, and a formal mental state examination. The psychiatrist concluded that Rubel had paranoid schizophrenia, that at the time of the offense he had been in an acute psychotic episode with persecutory delusions, that these delusions directly caused the attack (because Rubel genuinely believed he was defending himself and his family from mortal danger), and that as a result he had been incapable, within the meaning of Section 84, of knowing that what he was doing was wrong.

The court, faced with two conflicting expert opinions, requested a joint hearing at which both experts were questioned. The NIMH psychiatrist was able to explain clearly how the Section 84 criteria applied to Rubel's case and to demonstrate that the general physician's report was not an adequate forensic assessment. The court ultimately accepted the NIMH psychiatrist's opinion and acquitted Rubel under Section 84, directing his admission to NIMH for treatment.

This case illustrates several important points: the critical importance of qualified forensic psychiatric assessment; the inadequacy of general medical assessment as a substitute for specialist forensic evaluation; the importance of comprehensive clinical history-taking in retrospective assessment; and the capacity of the existing legal framework to produce a just outcome when properly operationalized.

Case Study 68.2: Community Rehabilitation and the Recovery Model

Sheuli is a 35-year-old woman from Sylhet who developed schizophrenia at the age of 22. She had multiple hospitalizations at NIMH over the following decade, each admission precipitated by discontinuation of medication following symptomatic improvement, and each discharge to an inadequate community support environment. Between hospitalizations she lived with her parents, was unable to work, had no social activities, and was largely confined to the home because her family was ashamed of her condition and feared stigma from the community.

Following her fifth hospitalization, the treating team referred Sheuli to a community mental health program run by an NGO that had received WHO support. The program provided: regular home visits by a trained community mental health worker (a woman from Sheuli's own community who had received six months of training); family psychoeducation sessions, including information about schizophrenia, medication management, early warning signs of relapse, and communication strategies; a weekly social group for women with mental illness at the NGO's community center; and vocational support to help Sheuli develop skills for a home-based income-generating activity (she had trained as a seamstress before her illness).

Over the following two years, Sheuli remained out of hospital for the longest period in her adult life. Her medication was maintained with the support of the community health worker. Her relationship with her family improved following the family psychoeducation. She developed

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friendships within the social group. She began tailoring work at home, initially as a hobby and then as a modest income source. She described the change in her sense of herself as profound: from being "a mad woman who was a burden on her family" to being a person with a health condition who was a productive member of her household and community.

This case illustrates the power of the recovery model when supported by adequate community-based services, and the importance of addressing social inclusion and family support alongside medication management.

Case Study 68.3: Capacity, Consent, and the Rights of a Prisoner

Arif is a 42-year-old man who has been in remand detention in a Dhaka prison for eighteen months, awaiting trial on fraud charges. He has no prior history of mental illness. During his detention, he developed a severe depressive episode, characterized by persistent low mood, inability to sleep, loss of appetite, social withdrawal, profound hopelessness, and recurrent thoughts of suicide. He disclosed these symptoms to the prison medical officer, who diagnosed depression and started him on amitriptyline.

Arif's condition did not improve and he made a serious suicide attempt, hanging himself from a ligature point in his cell. He survived but required brief hospitalization. Following his return to prison, he refused further antidepressant treatment, saying that he no longer wanted to be alive and that the treatment was irrelevant.

The prison medical officer, uncertain how to manage this situation, sought advice from NIMH. The NIMH psychiatrist conducted a comprehensive assessment and concluded: first, that Arif had severe major depressive disorder with suicidal ideation; second, that his refusal of treatment was a direct product of his depressive illness (specifically of the hopelessness that is a characteristic cognitive feature of severe depression, which causes people to genuinely believe that recovery is impossible); and third, that Arif retained some capacity to understand the information about his treatment options, but that his capacity to appreciate the relevance of this information to his own situation (specifically, to appreciate that his hopelessness was a symptom of a treatable illness rather than an accurate assessment of his situation) was significantly impaired.

This capacity analysis led to a clinical recommendation for a non-protesting admission under the MHA 2018, with initiation of an evidence-based antidepressant treatment and engagement in a brief supportive psychological intervention. The magistrate overseeing Arif's remand was informed and agreed to the transfer to NIMH. Within six weeks of treatment, Arif's depression had substantially improved and he expressed regret about his suicide attempt and willingness to continue treatment.

This case illustrates the clinical and ethical analysis required in complex capacity cases, the importance of understanding how psychiatric symptoms can specifically impair appreciation rather than simply understanding, and the legal pathway provided by the MHA 2018 for managing non-protesting patients.

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Case Study 68.4: The Rohingya Mother

Fatima is a 30-year-old Rohingya woman living in Camp 14 in Cox's Bazar with her three children, aged 4, 7, and 10. She fled Myanmar in 2017 following an attack on her village in which her husband and two of her siblings were killed. She witnessed multiple incidents of extreme violence during the attack and on her journey to Bangladesh. Since arriving in the camp, she has experienced recurrent nightmares, flashbacks of the violence, severe hypervigilance, social withdrawal, and a persistent inability to experience positive emotions. She rarely leaves her shelter, is unable to engage effectively with her children's care, and has expressed passive wishes to die.

Fatima was identified by a community health volunteer trained by an international NGO through a community-based mental health screening program. She was referred to the NGO's MHPSS caseworker, who conducted a further assessment using a culturally adapted tool and identified likely PTSD and major depression. The caseworker provided three sessions of psychological first aid and psychoeducation, and referred Fatima to a structured group psychotherapy program adapted for Rohingya women in the camp, which drew on culturally grounded concepts of healing and resilience.

Over several months of group participation, Fatima's acute distress symptoms reduced. She developed supportive relationships with other women in the group, which had been providing her with validation, normalization, and a shared processing of traumatic experiences. Her parenting capacity improved and her children showed improved behavioral adjustment.

However, Fatima's recovery was incomplete. She continued to experience significant PTSD symptoms, and the persistence of depressive symptoms despite group intervention indicated a need for specialist clinical assessment and possible pharmacological treatment. The referral pathway from community-based to specialist services was slow and uncertain, illustrating the challenge of the tiered MHPSS model in Cox's Bazar: the bottom two tiers are better developed than the clinical tier, creating a bottleneck for those needing more intensive treatment.

This case illustrates both the potential of community-based, culturally adapted MHPSS services for traumatized populations and the continuing gap between community and specialist provision that limits their reach for the most severely affected individuals.

CHAPTER SIXTY-NINE: SUMMARY AND CONNECTIONS TO PART FIFTEEN

Part Fourteen of this textbook has explored four deeply interconnected domains: forensic psychiatry, mental health law, human rights, and psychosocial rehabilitation. These domains are united by a common thread: the question of what it means to respect the dignity, rights, and potential of persons with mental illness in a society like Bangladesh, with its particular history, social structure, resource constraints, and cultural values.

The central findings of this Part may be summarized as follows.

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Bangladesh's forensic psychiatric system is among the least developed in the world, with no certified forensic psychiatrists, fifteen dedicated forensic inpatient beds for a population of 170 million, no prison mental health services, and a legal framework for the insanity defense and fitness to stand trial that is derived unchanged from Victorian colonial law and that cannot be adequately implemented without specialist infrastructure that does not exist.

The Mental Health Act 2018 represents a significant and genuine advance over the Lunacy Act 1912, introducing a rights-based framework, treatment categories, oversight mechanisms, and patients' rights provisions. However, its implementation is substantially incomplete, its provisions are inadequate in several important respects including protection for specific vulnerable groups and compliance with the CRPD, and the infrastructure required for its effective operation has not been developed.

The human rights situation in Bangladesh's mental health system is seriously deficient, with documented violations including chaining, physical abuse, inadequate care, sexual violence, and the abandonment of long-stay patients, occurring in a context of inadequate oversight, absent legal aid, and weak regulatory enforcement.

The mental health needs of Bangladesh's prison population are large, well documented, and essentially unmet, with no mental health services within the prison system and a massive unaddressed burden of mental disorder, substance use, and suicide risk among the approximately 80,000 to 100,000 persons in custody.

Psychosocial rehabilitation services are in the very early stages of development, with promising pilots such as PROSHANTI demonstrating the feasibility of community-based recovery-oriented approaches but with no national program and no systematic scaling of effective models.

The task-sharing approach, integrating mental health into primary care through training of non-specialist health workers, is the most promising near-term strategy for expanding coverage and represents the core of the mhGAP-based approach that Bangladesh has begun to adopt.

The digital mental health sector is growing rapidly but requires careful, evidence-informed development with attention to cultural adaptation, equity, privacy, and safety.

The mental health of specific marginalized populations, including prisoners, homeless persons, migrant workers, SGM persons, the Rohingya, and persons in areas affected by climate change and natural disasters, requires targeted policy and programmatic attention that has been largely absent.

The political economy of mental health reform in Bangladesh is challenging, but the post-2024 political transition offers a window of opportunity that mental health advocates should seek to use constructively.

The philosophical foundations of psychiatric ethics, including the tension between autonomy and beneficence, the nature of capacity and consent, and the social justice dimensions of mental health, require sustained engagement within the psychiatric community in Bangladesh if the

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development of a genuinely rights-based, recovery-oriented mental health system is to be more than rhetoric.

Part Fifteen, which follows, will address the important domain of psychopharmacology and biological treatments in psychiatry, examining the evidence base for pharmacological interventions in major psychiatric conditions, the challenges of rational prescribing in a resource-limited context, the specific pharmacological considerations relevant to Bangladeshi populations, the pharmacology-related controversies in contemporary psychiatry including debates about overmedication and diagnostic inflation, and the emerging field of precision psychopharmacology. The transition from this Part to the next reflects the clinical reality that forensic, legal, rights-based, and rehabilitation considerations do not exist in isolation from the biological and pharmacological dimensions of mental health care: an integrated approach requires all of these dimensions to be understood and practiced in relation to each other.

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Part Fourteen concludes here. Part Fifteen: Psychopharmacology, Biological Treatments, and the Science of Psychiatric Therapeutics in Bangladesh, follows.

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PART FIFTEEN: PSYCHOPHARMACOLOGY, BIOLOGICAL TREATMENTS, AND THE SCIENCE OF PSYCHIATRIC THERAPEUTICS IN BANGLADESH

PREFACE TO PART FIFTEEN

The story of psychopharmacology is one of the most dramatic in the history of medicine. Within the span of a single human lifetime, a discipline that had almost no effective medical treatments transformed itself into a field capable of managing the most severe manifestations of schizophrenia, reversing life-threatening depressive episodes, stabilizing the oscillating moods of bipolar disorder, and quieting the relentless cycles of obsessional suffering. The discovery of chlorpromazine in 1952, the serendipitous recognition of lithium's mood-stabilizing properties in 1949, the identification of the first antidepressants in the late 1950s, and the subsequent explosion of pharmacological development represent genuine achievements in the alleviation of human suffering.

And yet. The history of psychopharmacology is also a history of oversold promises, premature certainties, serious harms, and persistent inequalities of access. The chemical imbalance theory of depression, once confidently taught in medical schools and propagated by pharmaceutical marketing, has been significantly revised. The second-generation antipsychotics, heralded as transformative advances when they arrived in the 1990s, proved to have their own serious problems, particularly metabolic side effects, that their manufacturers were not always forthcoming about disclosing. The benzodiazepine epidemic of the 1970s and 1980s, in which millions of people, disproportionately women, became dependent on drugs prescribed for anxiety and sleep, is a cautionary tale about the risks of pharmacological enthusiasm in the absence of adequate long-term evidence. The current debates about the efficacy of antidepressants, the appropriate use of antipsychotics in dementia, and the long-term consequences of stimulant use in children are genuine scientific and ethical controversies that the field has not yet resolved.

In Bangladesh, the story of psychopharmacology has its own specific character. Medicines that transformed psychiatric care in high-income countries arrived years or decades later. Access has always been constrained by cost, geography, and the limited distribution networks of a health system under permanent resource pressure. The pharmaceutical industry has not always behaved responsibly in the marketing of psychiatric medications. Rational prescribing faces extraordinary challenges in a context where psychiatrists are few, general practitioners prescribe psychotropics with minimal training, and pharmacists dispense medications that legally require prescriptions without them.

This Part of the textbook approaches psychopharmacology with the respect it deserves as a genuinely effective clinical toolkit, and with the critical perspective it requires as a practice embedded in economic, social, and political contexts that shape both what is prescribed and who receives treatment. We will examine the mechanisms, the evidence, the controversies, and the practical realities of biological treatment in psychiatry, always with the Bangladesh context in view.

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One note on language and scope. Psychopharmacology, strictly speaking, refers to the study of the effects of drugs on psychological function. In clinical usage, however, it has come to denote the pharmacological treatment of psychiatric disorders, and this is the primary sense in which the term is used throughout this Part. We use the term "biological treatments" to encompass both pharmacological and non-pharmacological physical interventions, including electroconvulsive therapy, transcranial magnetic stimulation, and newer forms of neuromodulation. Psychotherapy and other non-biological treatments are addressed in Part Sixteen.

CHAPTER SEVENTY: THE HISTORY AND PRINCIPLES OF PSYCHOPHARMACOLOGY

70.1 Before the Psychopharmacological Era: What Came Before the Pills

To understand why the discovery of effective psychotropic medications was experienced as such a revolution, it is necessary to understand what came before. The history of biological treatments for mental illness before the mid-twentieth century is largely, though not entirely, a history of well-intentioned but harmful interventions.

The ancient world, as we have seen in Part One, relied on herbal preparations, dietary regimens, and environmental interventions for the management of mental distress. Some of these preparations had genuine pharmacological activity. The mandrake plant, used across the ancient Mediterranean world, contains tropane alkaloids with sedative and anticholinergic effects. Cannabis, used in various forms across South Asia and the Middle East for millennia, contains psychoactive compounds with complex effects on mood, perception, and anxiety. Opium, extracted from the poppy plant, was widely used across the ancient world as a sedative and analgesic. The Ayurvedic tradition employed a range of herbal preparations, including those derived from the Rauwolfia serpentina plant (from which reserpine, the first antihypertensive, and an early but harmful antipsychotic, would later be derived). The Unani tradition similarly had a rich pharmacopoeia of herbal and mineral preparations for mental disorders.

In colonial and nineteenth-century Europe, the management of severe mental illness relied primarily on custodial measures supplemented by a succession of pharmacological fads that reflected more hope than evidence. Bromide salts, introduced in the 1850s as sedatives and anticonvulsants, became widely used for the management of anxiety, excitement, and epilepsy, with serious toxic consequences from chronic use. Chloral hydrate, synthesized in 1832 and introduced into clinical use in the 1860s, was the first synthetic sedative-hypnotic and became widely used for the management of agitation in psychiatric patients, though with significant risks of overdose and dependence. Barbiturates, developed in the early twentieth century, partially replaced chloral hydrate as sedatives and were widely used in psychiatric practice from the 1900s through the 1950s, with comparable risks.

More disturbing than the pharmacological approaches were the surgical and procedural interventions that characterized early twentieth-century biological psychiatry. Insulin coma therapy, developed by Manfred Sakel in Vienna in 1927 and widely used until the 1960s,

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involved inducing profound hypoglycemia through insulin injection, producing a coma from which the patient was then revived. The rationale was never scientifically established, and the treatment was associated with serious risks including death. Metrazol convulsive therapy, using the drug metrazol to induce grand mal seizures, was introduced in the 1930s as a treatment for schizophrenia, based on the (empirically questionable) observation that epilepsy and schizophrenia rarely coexisted. Prefrontal lobotomy, developed by Egas Moniz in Portugal in 1935 and popularized by Walter Freeman in the United States, involved surgical severing of the connections between the prefrontal cortex and the rest of the brain, producing dramatic changes in personality and behavior that were in many cases as disabling as the original illness. Moniz received the Nobel Prize in Medicine in 1949, an award that in retrospect represents one of the more embarrassing decisions in the history of that institution.

Electroconvulsive therapy, introduced by Ugo Cerletti and Lucio Bini in Rome in 1938, differed from these other interventions in that it proved to be genuinely effective and has remained in use to the present day, in a much modified and refined form. We will discuss ECT in detail later in this Part. Here it is sufficient to note that the pre-psychopharmacological era of biological psychiatry was characterized by the combination of desperate circumstances, genuine therapeutic optimism, and inadequate scientific evaluation that is familiar from the early history of other medical specialties.

70.2 The Discovery of Chlorpromazine: A Story of Serendipity and Science

The discovery of chlorpromazine, the first effective antipsychotic medication, is one of the great stories of medical serendipity. It begins not with a search for an antipsychotic drug but with the French Navy's interest in a new class of antihistamine compounds synthesized by the chemist Paul Charpentier at the pharmaceutical company Rhone-Poulenc in 1950.

The compound was initially tested as a preoperative sedative by the French surgeon Henri Laborit, who was impressed by what he described as a "pharmacological lobotomy" - the production of a state of profound calmness and indifference to surroundings without loss of consciousness. He encouraged his psychiatric colleagues Jean Delay and Pierre Deniker at Sainte-Anne Hospital in Paris to test the compound in psychotic patients. Their first report, published in 1952, described dramatic reductions in psychotic agitation and in the positive symptoms of schizophrenia in a series of patients treated with the new compound, which was assigned the trade name Largactil (in the United States, Thorazine).

The clinical impact was immediate and dramatic. Patients who had been confined to padded cells, restrained in straitjackets, and sedated with barbiturates were able to hold conversations, engage in ward activities, and in some cases leave the hospital. The imagery of the before and after was so striking that chlorpromazine was rapidly adopted across Europe and North America, and its use spread around the world with remarkable speed. In Bangladesh and elsewhere in South Asia, chlorpromazine became available in the late 1950s and 1960s, transforming the management of acute psychosis in the limited institutional psychiatric settings that existed.

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The mechanism by which chlorpromazine produced its antipsychotic effects was not understood at the time of its discovery and took several decades to elucidate. The key breakthrough came in the 1960s and 1970s with the work of Arvid Carlsson, Paul Greengard, and others (who would later share the Nobel Prize in Medicine in 2000 for work on signal transduction in the nervous system) demonstrating that chlorpromazine and other antipsychotics blocked dopamine receptors in the brain. This discovery gave rise to the dopamine hypothesis of schizophrenia, the proposal that the positive symptoms of schizophrenia (hallucinations, delusions, and disorganized thinking) are produced by hyperactivity of dopaminergic neurotransmission, particularly in the mesolimbic pathway connecting the ventral tegmental area to the limbic forebrain.

The dopamine hypothesis was enormously productive as a framework for drug development and research, and it generated the entire first generation (and much of the second generation) of antipsychotic medications. It also, however, proved to be an oversimplification. We now know that schizophrenia involves disruptions not only in the dopamine system but in multiple neurotransmitter systems including glutamate (particularly through NMDA receptor hypofunction), serotonin, GABA, and acetylcholine. The clinical heterogeneity of schizophrenia - the fact that patients differ enormously in their symptom profiles, course, and treatment response - has proven difficult to account for within a simple dopamine framework. As of 2025, research into the neurobiology of schizophrenia has moved significantly beyond the dopamine hypothesis, though dopamine blockade remains the central mechanism of all currently approved antipsychotic medications.

70.3 Principles of Pharmacokinetics and Pharmacodynamics: The Foundation of Rational Prescribing

Rational prescribing requires understanding how drugs move through and act upon the body. This understanding is provided by two complementary disciplines: pharmacokinetics, which describes what the body does to the drug (absorption, distribution, metabolism, and elimination), and pharmacodynamics, which describes what the drug does to the body (its mechanism of action and its dose-response relationship).

Pharmacokinetics begins with absorption. When a drug is taken orally, it must be absorbed from the gastrointestinal tract into the bloodstream. The rate and extent of absorption determine how quickly and completely the drug reaches the systemic circulation. Absorption is affected by the drug's physical and chemical properties, by the presence of food in the stomach, by the integrity of the gastrointestinal mucosa, and by other drugs that may compete for absorption or alter gut motility. First-pass metabolism is an important concept: many drugs that are absorbed from the gastrointestinal tract are substantially metabolized by the liver before they reach the systemic circulation, so that the dose that eventually reaches target tissues is considerably less than the dose that was swallowed. This first-pass effect is clinically important because it varies between individuals (due to genetic differences in liver enzyme activity), between ethnic groups (with implications for dosing in populations like Bangladeshis that have been relatively underrepresented in pharmacological research), and over time (as liver disease, aging, or drug interactions alter the efficiency of first-pass metabolism).

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Distribution describes how the drug, once in the bloodstream, is distributed to different tissues and compartments of the body. Lipid-soluble drugs, which include most psychotropic medications, cross cell membranes readily and distribute widely, including across the blood-brain barrier, which is the essential prerequisite for central nervous system effects. The extent of distribution is quantified by the volume of distribution, a pharmacokinetic concept that describes the apparent volume into which a drug distributes if it were uniformly distributed throughout the body at the same concentration as in the plasma.

Metabolism refers to the chemical transformation of drugs by enzymes, primarily in the liver but also in the gut wall, lungs, and other tissues. The cytochrome P450 (CYP) enzyme system is the most important enzyme system for the metabolism of most psychotropic drugs. The CYP enzymes are encoded by multiple genes that show extensive genetic variation between individuals and between populations, producing large differences in the rate at which different people metabolize the same drug. This genetic variation in drug metabolism is the foundation of pharmacogenomics, the application of genetic information to optimize drug selection and dosing, which we will discuss in detail in Chapter 78.

The CYP2D6 enzyme is particularly important in psychiatry because it metabolizes many antidepressants, antipsychotics, and opioids. Individuals can be classified as poor metabolizers (with very low CYP2D6 activity, leading to high drug levels and increased risk of side effects), intermediate metabolizers, extensive metabolizers (the most common phenotype), or ultrarapid metabolizers (with very high CYP2D6 activity, leading to low drug levels and reduced efficacy at standard doses). The distribution of these phenotypes varies substantially between populations: ultrarapid metabolizers are rare among Europeans (about 1 to 2 percent) but more common in some African and Middle Eastern populations. The data on CYP2D6 phenotype distribution in Bangladeshi populations is limited, but studies in South Asian populations more broadly suggest patterns that differ from European norms and that have implications for psychotropic drug dosing.

Drug interactions are a clinically important consequence of shared metabolic pathways. When two drugs are metabolized by the same CYP enzyme, they may compete for metabolism, leading to increased levels of one or both drugs. Alternatively, one drug may inhibit or induce the activity of a CYP enzyme, altering the metabolism of drugs that depend on that enzyme. These interactions are particularly important in psychiatry because psychiatric patients often take multiple medications (polypharmacy is common), because psychiatric medications frequently have narrow therapeutic windows, and because patients with serious mental illness often have comorbid physical health conditions for which they are receiving additional medications.

Elimination describes the removal of a drug from the body, primarily through renal excretion of the unchanged drug or its metabolites, and through biliary excretion. The half-life of a drug, defined as the time required for the plasma concentration to fall to half its initial value, is a key pharmacokinetic parameter. It determines how frequently a drug must be dosed (drugs with long half-lives can be given once daily or less frequently, while drugs with short half-lives may require multiple daily doses), how long it takes to reach steady-state plasma concentrations (approximately five half-lives after starting a drug or changing the dose), and how long adverse effects persist after discontinuation.

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In Bangladesh, pharmacokinetic considerations have important practical implications. Patients with liver disease (which is common, given the prevalence of hepatitis B, hepatitis C, and non-alcoholic fatty liver disease in Bangladesh) have reduced capacity for hepatic drug metabolism, requiring dose adjustments. Patients with renal insufficiency (also common, given the high prevalence of diabetic nephropathy and hypertensive kidney disease) have reduced capacity for renal drug elimination. Elderly patients have reduced liver and kidney function as well as reduced plasma protein binding, altered drug distribution due to changes in body composition, and increased sensitivity to the central nervous system effects of psychotropic drugs. Poor nutritional status, which remains a problem in some Bangladeshi populations, can affect plasma protein binding and drug distribution.

Pharmacodynamics - what the drug does to the body - encompasses both therapeutic effects and adverse effects. The therapeutic effects of psychotropic drugs typically involve interactions with specific receptors or enzymes in the central nervous system. Antipsychotics block dopamine D2 receptors. Antidepressants inhibit the reuptake of monoamines (serotonin, norepinephrine, dopamine) into the presynaptic neuron. Benzodiazepines potentiate the effects of GABA at GABA-A receptors. Lithium exerts its mood-stabilizing effects through multiple mechanisms that are not yet fully understood but include effects on second messenger systems and neuroprotective actions. Understanding these mechanisms is important not only for choosing the right drug but for understanding the expected time course of therapeutic effects (many antidepressants require weeks to produce their full therapeutic effect, reflecting the time needed for downstream changes in neural circuits rather than simple receptor occupancy) and for predicting and managing adverse effects.

70.4 The Concept of Therapeutic Windows, Dose-Response Relationships, and Clinical Titration

Most psychotropic drugs exhibit a dose-response relationship in which higher doses produce greater therapeutic effects up to a point, beyond which further dose increases produce more side effects without additional therapeutic benefit. The concept of the therapeutic window describes the range of plasma concentrations or doses within which a drug produces its therapeutic effects without unacceptable adverse effects. For some drugs, particularly lithium and some tricyclic antidepressants, the therapeutic window is narrow, meaning that the margin between an effective dose and a toxic dose is small, and plasma level monitoring is essential. For other drugs, such as the SSRIs, the therapeutic window is wider and plasma level monitoring is less routinely necessary.

Clinical titration - the process of starting a drug at a low dose and gradually increasing to the therapeutic dose - is standard practice for most psychotropic medications. Titration serves several purposes: it allows the patient to adapt to the drug's side effects, which are often most prominent in the early stages of treatment; it allows the clinician to assess the patient's response at each dose level before increasing further; and it reduces the risk of serious adverse events, which can sometimes occur with rapid dose escalation.

In Bangladesh, the principles of careful titration are sometimes compromised by practical constraints. Patients who have traveled long distances to see a psychiatrist may be started on

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higher doses than would be ideal, in order to reduce the need for frequent dose adjustment visits. The cost of multiple appointments may be prohibitive. Communication barriers between clinician and patient may make it difficult to monitor side effects adequately. Generic medications of variable quality may not maintain the same plasma levels as branded preparations. All of these factors complicate the application of standard prescribing principles and require the clinician to exercise additional judgment and flexibility.

70.5 The Placebo Effect in Psychiatry: What It Tells Us and Why It Matters

No discussion of psychopharmacology is complete without a serious engagement with the placebo effect. A placebo is an inert substance or sham procedure that produces no pharmacological effect specific to the condition being treated, but that can produce genuine and sometimes substantial clinical improvement through non-specific mechanisms, including the patient's expectation of improvement, the therapeutic relationship with the clinician, and the natural course of the illness.

The placebo effect is particularly large in psychiatric drug trials. Meta-analyses of antidepressant trials have consistently found that approximately 30 to 40 percent of patients in placebo groups show significant improvement. The influential meta-analysis by Irving Kirsch and colleagues, published in 2008 and updated in subsequent analyses, concluded that the drug-placebo difference in antidepressant trials was smaller than previously assumed and was clinically significant only in patients with the most severe depression. This finding generated enormous controversy and has been interpreted in very different ways by different experts. Some argued that it demonstrated that antidepressants were largely glorified placebos; others argued that it was methodologically flawed and that the drug-placebo difference, while smaller than once thought, was genuine and clinically meaningful for a broad range of patients.

The truth, as is usually the case in complex scientific debates, lies somewhere in the middle. Antidepressants are genuine pharmacological agents with real effects on brain chemistry and behavior. They produce meaningful benefit for many patients, including many with moderate rather than only severe depression. But the non-specific components of treatment, including the therapeutic relationship, the expectation of improvement, and the behavioral changes that accompany treatment (such as the behavioral activation that often accompanies antidepressant treatment), also contribute substantially to outcomes. This understanding should not lead to nihilism about pharmacological treatment, but it should encourage a genuinely integrative approach in which the quality of the therapeutic relationship, the management of expectations, and the non-pharmacological components of care are taken seriously alongside the choice of medication.

The placebo effect has specific implications for clinical practice in Bangladesh. The ritualized and relational character of healing in Bangladeshi cultural tradition, in which the therapeutic authority of the healer, the meaningfulness of the healing ritual, and the social context of the healing encounter are all important, may amplify non-specific treatment effects in ways that should be acknowledged and harnessed rather than dismissed. The therapeutic relationship in Bangladeshi psychiatry, like the kabiraj's relationship with a patient, carries symbolic and social

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weight that contributes to outcomes in ways that are not fully captured by the pharmacological mechanisms of the prescribed medication.

70.6 Drug Availability, Cost, and Access in Bangladesh: The Political Economy of Psychopharmacology

Any account of psychopharmacology in Bangladesh must confront the fundamental issue of access. The most effective psychiatric medication is of no value to a patient who cannot obtain or afford it. The political economy of pharmaceutical access in Bangladesh is complex and has evolved significantly over the decades since independence.

Bangladesh has a substantial domestic pharmaceutical industry that produces a wide range of generic medications, including most of the essential psychotropic drugs on the WHO Essential Medicines List. The cost of most essential psychotropics in the local market is relatively low compared to branded versions, and much lower than in high-income countries. A month's supply of fluoxetine, the SSRI antidepressant, can be purchased for less than the equivalent of one US dollar in most Bangladeshi pharmacies. Haloperidol, the first-generation antipsychotic, is similarly inexpensive. Diazepam, despite its risk of dependence, is cheap and widely available. Lithium, the gold-standard mood stabilizer, is available and affordable. This availability of essential psychotropics at low cost is a genuine achievement of Bangladesh's pharmaceutical sector and of the National Drug Policy, which has consistently prioritized the production of essential generic medications.

However, several important challenges remain. First, the second-generation antipsychotics and newer antidepressants, while more expensive than first-generation medications, offer advantages in terms of side effect profiles that are clinically significant for many patients. The branded versions of these medications remain too expensive for most Bangladeshi patients, though generic versions of some (risperidone, olanzapine, quetiapine) are now available at more accessible prices. Second, the availability of medications outside major urban areas is often unreliable. A patient discharged from NIMH in Dhaka with a prescription for a particular antipsychotic may find it impossible to obtain that medication in their home district. This forces either expensive repeat trips to the city, substitution with an available but possibly less appropriate medication, or discontinuation of treatment. Third, the quality of generic medications in Bangladesh is variable, and there have been documented cases of substandard or counterfeit products in the market, particularly for medications with narrow therapeutic windows. Fourth, the absence of a functional health insurance system means that all medication costs are out-of-pocket for most patients, creating a continuous financial barrier to adherence.

The Bangladesh National Drug Policy, first established in 1982, represented a pioneering attempt to rationalize pharmaceutical access through promotion of essential medicines and control of irrational drug promotion. It has been revised several times since and continues to provide a framework for pharmaceutical regulation. However, enforcement of prescribing standards, control of pharmaceutical marketing practices, and monitoring of medication quality remain significant challenges for the regulatory authorities.

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CHAPTER SEVENTY-ONE: ANTIDEPRESSANTS - EVIDENCE, MECHANISMS, CONTROVERSIES, AND USE IN BANGLADESH

71.1 The Classification of Antidepressants: An Overview

The antidepressants constitute the largest and most diverse class of psychotropic medications, encompassing compounds with widely differing chemical structures, mechanisms of action, and clinical profiles. The classification of antidepressants has evolved over the decades as new compounds have been developed, and the terminology can be confusing. The most clinically useful classification organizes antidepressants by their primary mechanism of action.

Monoamine oxidase inhibitors (MAOIs) were among the first antidepressants to be discovered, with iproniazid recognized as an antidepressant in 1957. MAOIs inhibit the enzyme monoamine oxidase, which breaks down the monoamine neurotransmitters serotonin, norepinephrine, and dopamine in the presynaptic neuron and in the synapse. By inhibiting this degradation, MAOIs increase the availability of monoamines in the synapse. The irreversible MAOIs (phenelzine and tranylcypromine) are effective antidepressants but carry the serious risk of hypertensive crisis when taken with tyramine-containing foods (fermented foods, aged cheeses, cured meats) because the inhibition of intestinal monoamine oxidase normally responsible for metabolizing dietary tyramine is lost. This dietary restriction makes irreversible MAOIs difficult to use in many clinical contexts, including Bangladesh where fermented fish products (shidal, shutki) are dietary staples and patient education about dietary restrictions is challenging. Reversible inhibitors of monoamine oxidase A (RIMAs), such as moclobemide, do not carry the same dietary restriction risk and may be a clinically useful option in some situations, though they are less widely studied than the irreversible MAOIs.

Tricyclic antidepressants (TCAs), named for their three-ring chemical structure, were discovered in the 1950s and include imipramine, amitriptyline, clomipramine, and nortriptyline, among others. TCAs inhibit the reuptake of both serotonin and norepinephrine into the presynaptic neuron, increasing their availability in the synapse. They also have activity at multiple other receptors, including histamine H1 receptors (producing sedation), muscarinic acetylcholine receptors (producing anticholinergic side effects: dry mouth, constipation, urinary retention, blurred vision, and cognitive impairment), and alpha-1 adrenergic receptors (producing orthostatic hypotension). This broad receptor profile makes TCAs effective antidepressants (they are as effective as SSRIs for severe depression, and superior in some contexts) but gives them a more challenging side effect profile and a dangerously narrow therapeutic window in overdose, since their cardiotoxic effects (QTc prolongation, arrhythmias) make them potentially lethal at doses only modestly above the therapeutic range. This overdose risk is of particular importance in countries like Bangladesh, where suicide by self-poisoning is common, and where TCAs represent a readily available and potentially lethal means of overdose.

Selective serotonin reuptake inhibitors (SSRIs) selectively inhibit the reuptake of serotonin into the presynaptic neuron with minimal effects on other neurotransmitter systems. This selectivity produces a cleaner side effect profile compared to TCAs: SSRIs do not produce significant antihistaminergic, anticholinergic, or alpha-1 adrenergic blockade. The most commonly used SSRIs include fluoxetine, sertraline, paroxetine, escitalopram, and citalopram. SSRIs are

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generally well tolerated, though they produce their own characteristic side effects including nausea (particularly in the first weeks of treatment), sexual dysfunction (in a substantial proportion of patients), sleep disturbance, and in some cases increased anxiety, particularly at the beginning of treatment. Importantly, they are much safer in overdose than TCAs, making them a more appropriate choice in patients at risk of self-harm, which in practice means a large proportion of patients with depression.

Serotonin-norepinephrine reuptake inhibitors (SNRIs) inhibit the reuptake of both serotonin and norepinephrine, like TCAs, but do so with greater selectivity and without the same degree of activity at histamine, muscarinic, or alpha-1 adrenergic receptors. The SNRIs, including venlafaxine, duloxetine, and desvenlafaxine, are effective antidepressants and have particular advantages in patients with comorbid pain syndromes (because norepinephrine reuptake inhibition contributes to analgesia), which is relevant in Bangladesh given the high prevalence of somatic presentations of depression.

Mirtazapine works through a different mechanism than the reuptake inhibitors: it blocks alpha-2 adrenergic autoreceptors and heteroreceptors (increasing the release of norepinephrine and serotonin), blocks 5-HT2 and 5-HT3 receptors (reducing anxiety and nausea respectively), and strongly blocks H1 histamine receptors (producing sedation and weight gain). Mirtazapine is particularly useful for patients with insomnia and weight loss as prominent features of their depression, which is common in Bangladesh given the frequent presentation of depression with vegetative features. Its sedative properties are most pronounced at lower doses, paradoxically.

The category of norepinephrine-dopamine reuptake inhibitors is represented primarily by bupropion, which inhibits the reuptake of both norepinephrine and dopamine with minimal serotonergic activity. Bupropion has a distinctive profile: it does not cause sexual dysfunction (a clinically important advantage), does not cause weight gain (and indeed may facilitate weight loss), and is effective for smoking cessation as well as depression. However, it lowers the seizure threshold, making it relatively contraindicated in patients with epilepsy or with eating disorders involving purging behaviors (which can lower the seizure threshold through electrolyte disturbances). Bupropion is not widely available in Bangladesh, limiting its clinical use.

71.2 The Monoamine Hypothesis of Depression: Rise, Revision, and Current Status

The monoamine hypothesis of depression, in its original simple form, proposed that depression was caused by a deficiency of monoamine neurotransmitters, particularly serotonin and/or norepinephrine, at synapses in relevant brain circuits, and that antidepressants worked by correcting this deficiency. This hypothesis was enormously influential from the 1960s through the 1990s and was popularized in a way that led to the widespread public understanding that depression is a "chemical imbalance" corrected by antidepressants.

The monoamine hypothesis had a compelling internal logic and generated productive research. If antidepressants work by blocking monoamine reuptake or inhibiting monoamine breakdown, and if these actions relieve depression, then it seems reasonable to infer that depression is caused by insufficient monoamine activity. However, this inference is logically questionable (the fact that aspirin relieves headaches does not mean that headaches are caused by aspirin

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deficiency), and subsequent research has provided compelling evidence against the simple version of the hypothesis.

Several lines of evidence have challenged the original monoamine hypothesis. First, the depletion of tryptophan (the dietary precursor of serotonin) in healthy individuals does not cause depression, even though it substantially reduces brain serotonin synthesis. This suggests that low serotonin alone is not sufficient to cause depression. Second, SSRIs produce their antidepressant effects only after two to four weeks of treatment, despite producing serotonin reuptake blockade within hours of the first dose. If low serotonin were the cause of depression and SSRIs corrected it by blocking reuptake, the antidepressant effect should be immediate. The delayed response suggests that the therapeutic effect involves downstream neuroplasticity changes rather than simple correction of a neurotransmitter deficiency. Third, tianeptine, an antidepressant used in France and some other countries, actually increases serotonin reuptake (the opposite of SSRIs) yet is as effective as SSRIs in treating depression. Fourth, a comprehensive umbrella review published in Molecular Psychiatry in 2022 by Moncrieff, Cooper, and colleagues found no consistent evidence, across multiple lines of investigation, that depression was associated with lower serotonin activity or levels.

This 2022 review generated enormous media attention and public debate, with headlines proclaiming that the "chemical imbalance theory has been debunked." This is an oversimplification. What the review found is that the specific version of the serotonin hypothesis, which claimed that depression is caused by low serotonin, is not supported by the available evidence. It did not find that antidepressants are ineffective or that serotonergic neurotransmission is irrelevant to depression. The response of biological markers of serotonergic function to various challenges in depressed versus non-depressed individuals is complex and inconsistent, and the role of serotonin in depression remains an active and unresolved scientific question.

What the contemporary understanding of depression's neurobiology looks like, as of the mid-2020s, is considerably more complex than the original monoamine hypothesis. Depression is now understood as a disorder involving dysfunctions in multiple interconnected neural circuits, with abnormalities documented in the prefrontal cortex (implicated in executive function and emotional regulation), the anterior cingulate cortex (implicated in emotional conflict and self-referential processing), the amygdala (implicated in threat detection and fear processing), the hippocampus (implicated in memory and stress regulation), and their interconnections. Neuroinflammatory mechanisms are increasingly recognized as important, with meta-analyses showing elevated levels of inflammatory markers including C-reactive protein, interleukin-6, and tumor necrosis factor-alpha in depressed individuals. The HPA axis stress response system is disrupted in many depressed individuals. The glutamatergic system, particularly through NMDA receptor mechanisms, is implicated in both the pathophysiology of depression and the mechanism of action of the rapid-acting antidepressant ketamine. Neuroplasticity, specifically the capacity of the brain to form new synaptic connections and to generate new neurons, is impaired in depression and restored by effective treatment, whether pharmacological or psychological.

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This multisystem understanding of depression's neurobiology does not invalidate the clinical utility of monoaminergic antidepressants, but it does explain some of their limitations, including the high rates of partial response, treatment resistance, and recurrence, and it suggests the importance of treatment approaches that target multiple systems simultaneously and that support neuroplasticity through biological (medications, ECT), psychological (cognitive-behavioral therapy, interpersonal therapy), and lifestyle (exercise, which has well-documented neuroplastic effects) interventions.

71.3 Practical Prescribing of Antidepressants: From First Prescription to Discontinuation

The practical management of antidepressant treatment requires attention to several phases: the acute treatment phase, the continuation phase, the maintenance phase, and, when appropriate, the discontinuation phase.

The acute treatment phase begins with the initiation of the antidepressant and extends to the achievement of response, typically defined as a 50 percent or greater reduction in symptom severity, and ideally to the achievement of remission, defined as the near-complete resolution of symptoms. The choice of antidepressant for the acute phase should be guided by several factors. First, the clinical presentation: patients with prominent insomnia and weight loss may benefit from more sedating antidepressants like mirtazapine or amitriptyline, while patients with prominent fatigue and hypersomnia may do better with more activating agents like fluoxetine or bupropion. Patients with comorbid anxiety disorders require antidepressants with good anxiolytic efficacy (SSRIs and SNRIs are the preferred choices) and careful attention to the initial anxiety-exacerbating effect that can occur in the first weeks of SSRI treatment. Patients with chronic pain may benefit particularly from SNRIs or TCAs. Second, the patient's medical comorbidities and other medications: cardiac patients should generally avoid TCAs and may need to have QTc monitored if prescribed SSRIs (particularly citalopram and escitalopram, which have dose-dependent QTc prolongation effects). Patients taking anticoagulants should have their clotting status monitored if prescribed SSRIs, which can inhibit platelet function. Third, the risk of overdose: in patients with suicidal ideation or previous overdose attempts, SSRIs and SNRIs are strongly preferred over TCAs, and the supply of medication should be limited to prevent the stockpiling of dangerous quantities.

The antidepressant should be started at a low dose and gradually increased to the therapeutic dose over the first two to four weeks, with the patient informed that full therapeutic effects typically require four to eight weeks. This expectation management is critically important: many patients, not feeling better after the first week or two of treatment, conclude that the medication is not working and discontinue it prematurely. In Bangladesh, where patients may have limited access to follow-up appointments, investing time in psychoeducation about the expected time course of antidepressant response at the initial consultation is particularly important.

An adequate trial of an antidepressant for depression is generally defined as a minimum of four to six weeks at an adequate dose. If there is no response at all after four to six weeks at an adequate dose, a change of antidepressant or augmentation strategy should be considered. If there is a partial response, a longer trial (up to twelve weeks) or augmentation with another agent may be appropriate. The concept of treatment-resistant depression (TRD), typically

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defined as failure to respond to two or more adequate antidepressant trials of different classes, identifies a clinically important subgroup of patients who require specialist assessment and more complex treatment strategies.

The continuation phase follows achievement of response or remission and should extend for at least six to twelve months after remission. The purpose of the continuation phase is to prevent relapse, which is the re-emergence of the current depressive episode. The evidence for continuation treatment in preventing relapse is strong: discontinuing antidepressants in the first six months after remission substantially increases the risk of relapse compared to continuing treatment. The maintenance phase is indicated for patients with recurrent depression, particularly those with three or more episodes, severe episodes, or episodes with psychotic features, and should extend for two to five years or longer. The evidence for long-term maintenance treatment in reducing the risk of recurrence (a new episode after a period of full recovery) is compelling for this high-risk group.

Discontinuation of antidepressants should be gradual rather than abrupt in most cases. Abrupt discontinuation, particularly of paroxetine and venlafaxine (which have short half-lives and strong discontinuation syndromes), can produce a characteristic discontinuation syndrome characterized by dizziness, nausea, "electric shock" sensations (paresthesias described as brief shock-like feelings), irritability, and anxiety. This syndrome is not dangerous but can be very distressing and is frequently misinterpreted as relapse or as evidence of dependence. Gradual dose tapering over several weeks or months, with the patient informed about what to expect, usually allows discontinuation without significant difficulty.

71.4 Antidepressants in the Bangladesh Context: What Is Available, What Is Used, and What Works

In the Bangladesh clinical context, the antidepressants most commonly prescribed by psychiatrists are SSRIs, particularly fluoxetine and sertraline, which are available generically at low cost, have a favorable side effect profile, and are safe in overdose. Escitalopram is increasingly available. Among the TCAs, amitriptyline remains widely used, particularly in primary care and by general physicians, partly because of its low cost, its availability, and its effectiveness for comorbid pain syndromes, but with inadequate attention to its risks in overdose and its anticholinergic side effects. Clomipramine retains a specific indication in OCD.

The role of the general physician in antidepressant prescribing in Bangladesh deserves specific discussion. In the absence of adequate numbers of psychiatrists, general practitioners (GPs) and primary care physicians prescribe a substantial proportion of all antidepressants in Bangladesh. However, the training of GPs in mental health in Bangladesh is generally limited, consisting of a relatively brief psychiatry rotation during medical school, and many GPs lack the confidence and competence to adequately diagnose depression, select appropriate antidepressants, titrate doses, monitor response, and manage side effects. The result is a pattern of prescribing that is often inadequate: low doses of antidepressants prescribed for short periods, without adequate follow-up, and without concurrent psychosocial intervention. These patterns reduce the effectiveness of antidepressant treatment in primary care settings.

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Improving antidepressant prescribing in Bangladesh requires a multi-pronged approach. Training GPs in the recognition and management of depression, including through the mhGAP program, is the most important component. Developing simple, practical prescribing guidelines adapted to the available medications and the Bangladesh context is important. Creating referral pathways to psychiatrists for complex cases, treatment-resistant depression, and psychotic depression is essential. And integrating basic psychological interventions (including problem-solving therapy and behavioral activation, which can be delivered by trained non-specialists) with antidepressant treatment represents the most evidence-based approach to improving outcomes.

71.5 Novel Antidepressant Approaches: Ketamine, Esketamine, and Beyond

The discovery of ketamine's rapid antidepressant effects represents the most significant development in antidepressant pharmacology in the past two decades. Ketamine, an NMDA glutamate receptor antagonist, was developed in the 1960s as a dissociative anesthetic and has been used as a veterinary and field anesthetic for decades. Its antidepressant effects were first described in 2000 in a small controlled trial by Berman and colleagues, who found that a single subanesthetic intravenous dose of ketamine produced rapid (within hours) and substantial (lasting days to a week) improvement in depressive symptoms.

This finding challenged the prevailing assumption that antidepressants required weeks to exert their therapeutic effects, and it suggested a fundamentally different mechanism of action from monoaminergic antidepressants. Subsequent research has established that ketamine's antidepressant effect is mediated primarily through blockade of NMDA receptors and consequent downstream effects on AMPA receptors, brain-derived neurotrophic factor (BDNF) signaling, and synaptic plasticity in the prefrontal cortex and hippocampus. In effect, ketamine appears to produce rapid synaptogenesis, the formation of new synaptic connections, in circuits that are impaired in depression.

Esketamine, the S-enantiomer of ketamine, has been developed as an intranasal formulation (trade name Spravato) and received FDA approval in 2019 for treatment-resistant depression and in 2020 for major depressive disorder with acute suicidal ideation. It is also effective and has the advantage of a more convenient route of administration compared to intravenous ketamine. As of 2025, clinical experience with esketamine has expanded substantially, and it is increasingly integrated into the management of treatment-resistant depression in high-income countries.

The rapid antidepressant effect of ketamine is clinically significant because it offers a treatment option for patients with severe, immediately life-threatening depression in whom the weeks-long response latency of conventional antidepressants is unacceptable. For a severely suicidal patient in a psychiatric emergency, the possibility of meaningful improvement within hours rather than weeks is potentially life-saving.

In Bangladesh, ketamine is available as an anesthetic agent and is used in surgical settings, particularly in resource-limited contexts where its safety profile (it maintains airway reflexes and cardiovascular stability) makes it advantageous over other anesthetics. However, its use as

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an antidepressant in Bangladesh is essentially non-existent as of 2025, reflecting the absence of the specialized protocols, monitoring equipment, and clinical expertise required for safe antidepressant use, the cost and practical difficulties of administering a drug by intravenous infusion in the psychiatric setting, and the regulatory status of ketamine as a controlled substance. The emergence of intranasal esketamine as a potentially more accessible formulation may eventually bring this treatment within reach of some specialized centers in Bangladesh, but this is not an immediate prospect.

The broader landscape of novel antidepressant development as of 2025 includes several other compounds with mechanisms beyond the monoamine system. Brexanolone (trade name Zulresso), a synthetic form of the neurosteroid allopregnanolone, received FDA approval in 2019 for postpartum depression, a condition of particular relevance in Bangladesh given the high birth rate and the documented high prevalence of postpartum depression in Bangladeshi women. Brexanolone works by positive allosteric modulation of GABA-A receptors and must be administered as a 60-hour intravenous infusion, making it practical only in inpatient settings. A related compound, zuranolone, is an oral neurosteroid that received FDA approval in 2023 for both postpartum depression and major depressive disorder. These developments are scientifically significant but their clinical impact in Bangladesh will be limited by cost and availability in the foreseeable future.

The revival of interest in psychedelic compounds, including psilocybin (the active compound in "magic mushrooms") and MDMA (3,4-methylenedioxymethamphetamine, known colloquially as ecstasy), as therapeutic agents represents one of the most scientifically and culturally interesting developments in contemporary psychopharmacology. Psilocybin, administered in carefully controlled therapeutic settings with professional psychological support, has shown remarkable efficacy in clinical trials for depression, anxiety in cancer patients, and addiction, with effects after one or two sessions that appear to persist for months. MDMA-assisted therapy for PTSD has shown dramatic efficacy in phase III clinical trials, though a decision by the FDA in 2024 not to approve MDMA for PTSD at that stage, citing concerns about trial design and safety monitoring, has delayed its clinical availability. These developments are largely of theoretical interest for Bangladesh in the current moment, given their restricted legal status, the specialized protocols and trained therapists they require, and their cost. However, the underlying neuroscience of psychedelic therapy, which involves mechanisms including 5-HT2A receptor activation, increased neuroplasticity, and what researchers have called "psychological flexibility," is enriching the field's understanding of how profound and rapid psychological change can occur.

CHAPTER SEVENTY-TWO: ANTIPSYCHOTICS - FROM CHLORPROMAZINE TO THE LATEST AGENTS

72.1 The First Generation: Dopamine Blockade and Its Consequences

The first-generation antipsychotics (FGAs), also called "typical" antipsychotics or "conventional" antipsychotics, constitute the class of medications discovered in the 1950s and

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1960s that all share the common mechanism of dopamine D2 receptor blockade. Their clinical effects are correspondingly predictable: effective reduction of positive psychotic symptoms (hallucinations, delusions, disorganized thinking), less reliable improvement in negative symptoms (blunted affect, poverty of speech, avolition, anhedonia), and significant adverse effects related to both their intended dopaminergic and their unintended actions on other receptor systems.

The FGAs are classified by their potency in terms of the amount of drug required to produce equivalent D2 receptor blockade. Low-potency FGAs, including chlorpromazine, thioridazine, and levomepromazine, produce significant blockade of histamine H1 receptors (causing sedation and weight gain) and alpha-1 adrenergic receptors (causing orthostatic hypotension) alongside their antipsychotic effects. These properties make low-potency FGAs particularly sedating, which can be useful in the acute management of agitation but troublesome in longer-term use. They are also anticholinergic, which reduces (but does not eliminate) their risk of extrapyramidal effects.

High-potency FGAs, including haloperidol, trifluoperazine, and fluphenazine, are much more selective in their receptor binding profile, with dominant D2 blockade and minimal activity at other receptors. This selectivity means less sedation and less orthostatic hypotension, but greater risk of extrapyramidal side effects (EPS), including acute dystonias (painful, sustained muscle contractions, particularly affecting the neck, jaw, and eyes, which are frightening and dramatically distressing to the patient and commonly occur within the first days of treatment), akathisia (a subjective sense of inner restlessness and the compelling need to move, which is extremely unpleasant and a significant contributor to non-adherence), Parkinsonism (bradykinesia, rigidity, tremor, and mask-like facies), and tardive dyskinesia.

Tardive dyskinesia (TD) deserves specific discussion as one of the most important and most feared complications of antipsychotic treatment. TD is a syndrome of involuntary, repetitive, purposeless movements, typically affecting the orofacial region (lip-smacking, tongue protrusion, chewing movements) but also potentially involving the trunk and limbs. It develops after prolonged exposure to dopamine-blocking agents (the term "tardive" means late-appearing) and is caused by the development of dopamine receptor supersensitivity following chronic blockade. In its most severe form, TD is irreversible and significantly disabling. The risk of TD increases with duration of exposure, with age, and with cumulative dose. Among all psychiatric populations, tardive dyskinesia is perhaps the most distressing iatrogenic (treatment-caused) condition, because it is an involuntary, visible movement disorder caused by the very treatment intended to help.

In Bangladesh, haloperidol is by far the most commonly prescribed antipsychotic in both inpatient and outpatient settings, reflecting its very low cost (it is among the cheapest medications in the pharmacopoeia), its availability throughout the country, its efficacy in managing acute psychosis, and the familiarity of prescribers with its use. The widespread use of haloperidol is accompanied by widespread extrapyramidal side effects, which are often inadequately monitored and managed. The prophylactic use of anticholinergic medications like trihexyphenidyl (artane) and benztropine to reduce EPS is common practice with high-potency

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FGAs in Bangladesh, though it carries its own risks including anticholinergic toxicity, particularly in elderly patients, and possible worsening of tardive dyskinesia if used long-term.

The development of long-acting injectable (LAI) formulations of some FGAs, beginning with fluphenazine decanoate and haloperidol decanoate, represented an important advance in the management of schizophrenia and other psychotic disorders. LAIs are administered by intramuscular injection at intervals of two to four weeks, providing sustained and predictable plasma concentrations without dependence on daily oral dosing. For patients with poor adherence to oral medication (which is extremely common in schizophrenia, with non-adherence rates estimated at 40 to 75 percent in many studies), LAIs substantially reduce the risk of relapse. The availability of haloperidol decanoate LAI in Bangladesh makes this treatment option accessible for appropriate patients, though its use requires training in injection technique and monitoring for injection site reactions.

72.2 The Second Generation: A Partial Revolution

The second-generation antipsychotics (SGAs), also called "atypical" antipsychotics, were introduced in the 1990s and were initially marketed as transformative advances over FGAs on two grounds: superior efficacy, particularly for negative symptoms and cognitive impairment, and a lower risk of extrapyramidal side effects. The reality proved to be more complex than these marketing claims suggested, but SGAs do represent a genuine, if imperfect, advance in several respects.

The prototype SGA is clozapine, which was actually developed in the 1960s but withdrawn from most markets in 1975 after reports of fatal agranulocytosis (a severe reduction in white blood cell counts that leaves the patient vulnerable to life-threatening infections). It was reintroduced in the late 1980s when its unique efficacy in treatment-resistant schizophrenia - meaning schizophrenia that had failed to respond to adequate trials of at least two other antipsychotics - was demonstrated in a landmark randomized controlled trial by John Kane and colleagues in 1988. This trial showed that clozapine produced substantial improvement in patients who had failed multiple previous antipsychotic trials, an effect that has been consistently replicated and that has established clozapine as the gold standard treatment for treatment-resistant schizophrenia.

Clozapine's mechanism of action differs importantly from other antipsychotics. While it does block D2 receptors, it does so with relatively low affinity and is easily displaced by dopamine, which may explain why it produces minimal EPS. It has strong activity at serotonin 5-HT2A receptors, histamine receptors, muscarinic receptors, and alpha-adrenergic receptors, and it is the interaction among these multiple receptor activities that is thought to produce its unique clinical profile. The mandatory blood monitoring requirement (regular complete blood counts to detect agranulocytosis before it becomes life-threatening) is an essential component of clozapine management. In Bangladesh, clozapine is available, and some specialist centers use it for appropriate patients, but the monitoring infrastructure required for safe clozapine use is a significant practical challenge.

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The SGAs that followed clozapine into clinical practice (risperidone, olanzapine, quetiapine, aripiprazole, ziprasidone, amisulpride, and others) differ from FGAs primarily in their combined D2/5-HT2A receptor blockade profile, which reduces EPS risk. However, the superiority of SGAs over FGAs in terms of efficacy proved considerably less dramatic in practice than the early trials suggested. The large, independent CATIE trial in the United States and the CUtLASS trial in the United Kingdom, both published in the mid-2000s, found that the effectiveness of SGAs was not substantially superior to that of perphenazine (a mid-potency FGA) for most patients with schizophrenia, with the important exception of clozapine, which was consistently superior.

The metabolic side effects of many SGAs are a serious clinical problem. Olanzapine and clozapine in particular cause substantial weight gain (averaging 4 to 6 kg over the first six months of treatment for olanzapine), dyslipidemia, and insulin resistance, significantly increasing the risk of type 2 diabetes and cardiovascular disease. These metabolic effects are particularly concerning because they contribute to the dramatically reduced life expectancy of people with schizophrenia, who die on average 15 to 20 years earlier than the general population, primarily from cardiovascular disease. The metabolic monitoring and management of patients on SGAs, which should include regular measurement of weight, BMI, fasting glucose, and lipid profile, is an essential but frequently neglected component of psychiatric care in Bangladesh.

Aripiprazole and brexpiprazole represent a further development within the SGA class, with a different receptor profile from earlier SGAs. Rather than simply blocking D2 receptors, aripiprazole acts as a partial agonist at D2 and D3 receptors, producing dopamine stabilization rather than pure blockade. This mechanism produces antipsychotic effects with minimal EPS (because partial agonism at D2 receptors in the striatum provides some dopaminergic tone, preventing the extrapyramidal effects of pure blockade) and much less metabolic disruption than olanzapine or clozapine. Aripiprazole has become a widely used SGA and is available generically in Bangladesh at increasingly accessible prices.

Lurasidone, cariprazine, and lumateperone represent the most recent additions to the antipsychotic armamentarium. Cariprazine, with its preferential partial agonism at D3 receptors (alongside D2 partial agonism), has shown particular efficacy for negative symptoms of schizophrenia, which remain the most treatment-resistant component of the illness and the most disabling for long-term functional recovery. The publication in Lancet Psychiatry in 2025 of long-term safety and efficacy data for lumateperone (Caplyta) in relapse prevention of schizophrenia, which supported a supplemental NDA submission to the FDA, represents the most recent clinical evidence in this area. These newer agents are not yet widely available in Bangladesh, but their emergence reflects the continuing development of the antipsychotic class beyond the limitations of first- and second-generation compounds.

A landmark development in antipsychotic pharmacology that deserves particular attention is the FDA approval in 2024 of xanomeline-trospium chloride (trade name Cobenfy) for schizophrenia. This compound, developed by Karuna Therapeutics, represents the first antipsychotic approved for schizophrenia that does not primarily work through dopamine receptor blockade. Instead, xanomeline is a muscarinic receptor agonist, particularly at M1 and M4 receptors, which

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activates a fundamentally different neurobiological pathway. Trospium, a peripheral muscarinic antagonist, is co-administered to reduce the peripheral side effects (nausea, diarrhea) that would otherwise be intolerable. The clinical trial evidence for xanomeline-trospium in schizophrenia showed significant improvement in both positive and negative symptoms, with no extrapyramidal effects and no metabolic disruption. This compound opens the possibility that the muscarinic cholinergic system may be a viable alternative target for antipsychotic treatment, with potentially important implications for the substantial minority of patients who do not adequately respond to or tolerate dopamine-blocking agents.

72.3 Managing Antipsychotic Treatment in Bangladesh: Practical Guidance and Key Challenges

The management of antipsychotic treatment in Bangladesh requires navigating the tension between what is available and affordable on one hand and what is ideally appropriate for individual patients on the other. The following practical principles guide rational antipsychotic prescribing in the Bangladesh context.

The selection of an antipsychotic should be individualized to the patient's clinical presentation and circumstances. For a patient with a first episode of acute psychosis with significant agitation and behavioral disturbance, haloperidol combined with a benzodiazepine for short-term sedation is a rational and cost-effective initial choice. For a patient with a chronic psychotic disorder and significant metabolic risk factors (obesity, prediabetes), aripiprazole is preferred over olanzapine. For a patient with prominent negative symptoms and multiple failed antidepressant trials, clozapine should be considered, provided adequate monitoring is possible. For a patient with poor adherence who is repeatedly relapsing, a long-acting injectable preparation should be offered.

Adequate dosing is a persistent challenge. Underdosing, driven by cost concerns or by inadequate knowledge, is common in Bangladesh and leads to partial response. Conversely, high-dose antipsychotic treatment and polypharmacy with multiple antipsychotics is also practiced in some settings, despite evidence that it does not improve efficacy and substantially increases side effect burden. The concept of "minimum effective dose" - using the lowest dose that achieves adequate symptom control - should guide prescribing across all antipsychotic agents.

Monitoring for metabolic side effects should be standard practice but is frequently neglected in Bangladesh. Every patient on an antipsychotic should have baseline weight, BMI, blood pressure, fasting glucose, and lipid profile measured, with monitoring repeated at three months and then annually. Management of antipsychotic-induced metabolic abnormalities, including dietary advice, physical activity promotion, and if necessary pharmacological treatment (such as metformin for antipsychotic-induced diabetes), should be integrated into psychiatric care or coordinated with primary care.

The monitoring and management of extrapyramidal side effects, particularly tardive dyskinesia, requires systematic clinical examination at every outpatient visit using standardized rating instruments such as the Abnormal Involuntary Movement Scale (AIMS). In Bangladesh, the

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systematic monitoring of movement abnormalities is not routine practice in most settings, and tardive dyskinesia is frequently undetected until it is advanced. The awareness that EPS, particularly tardive dyskinesia, are common complications of the high-dose haloperidol prescribing patterns that are prevalent in Bangladesh, should motivate attention to appropriate monitoring.

Informed consent for antipsychotic treatment, including information about the risk of tardive dyskinesia, metabolic effects, and sexual dysfunction, is ethically required and practically important for building the therapeutic alliance and supporting adherence. In Bangladesh, the tradition of clinician-led, family-centered decision-making can make individual informed consent more challenging, but it does not eliminate the ethical requirement to provide patients with information about their treatment.

CHAPTER SEVENTY-THREE: MOOD STABILIZERS AND THE PHARMACOLOGICAL MANAGEMENT OF BIPOLAR DISORDER

73.1 Lithium: The Oldest and Still the Best

Lithium is one of the oldest, most studied, and most effective treatments in all of psychiatry, yet it remains one of the most underused medications in both high-income and low-income countries. Its history is extraordinary: a simple metal, the lightest solid element in the periodic table, that turns out to have potent effects on the brain's mood regulation systems, discovered serendipitously by an Australian psychiatrist working in conditions of modest resources, and proven over more than seventy years of clinical use to reduce both the frequency and severity of manic and depressive episodes in bipolar disorder, to reduce the risk of suicide, and to have neuroprotective effects that may reduce the long-term brain changes associated with recurrent mood episodes.

John Cade's discovery of lithium's mood-stabilizing properties in 1949 is one of the great stories of psychiatric research. Working in a repurposed facility in Melbourne, Cade was investigating the possible role of uric acid in mania (then a widely entertained hypothesis) and was using lithium to make uric acid sufficiently soluble to inject into guinea pigs. He noticed that lithium, in addition to dissolving the urate, produced a state of calm and sedation in the animals. Extrapolating boldly, he decided to test lithium in manic patients, with dramatic results: the patients became calm, manageable, and in some cases were able to be discharged from the hospital for the first time in years. Cade published his findings in 1949, but the adoption of lithium was slow, partly because of deaths from lithium toxicity in patients on low-sodium diets (lithium is reabsorbed in the proximal renal tubule by the same transporter as sodium, so sodium depletion increases lithium retention and can produce dangerous toxicity) and partly because, as a naturally occurring substance, lithium could not be patented, limiting the commercial incentive for its development and promotion.

The mechanism of lithium's mood-stabilizing effects is not fully elucidated despite decades of research, which reflects both the complexity of lithium's pharmacology and the complexity of

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bipolar disorder itself. Lithium exerts effects on multiple molecular targets, including inhibition of glycogen synthase kinase-3 beta (GSK-3 beta), inhibition of inositol monophosphatase (affecting second messenger signaling through the phosphoinositide pathway), modulation of adenylate cyclase, effects on sodium, potassium, and calcium channels, and upregulation of BDNF and other neuroprotective factors. The net effect of these multiple actions appears to be a stabilization of neuronal function and a protection of neurons against excitotoxic and other stress-related damage. Long-term lithium treatment has been associated with preservation of grey matter volume in the hippocampus and prefrontal cortex, brain regions that are progressively reduced in volume with recurrent manic and depressive episodes in untreated bipolar disorder.

The evidence for lithium's efficacy in bipolar disorder is comprehensive. It is effective in acute mania (though less rapidly effective than antipsychotics, so combination treatment is often needed in severe acute mania). It is effective in bipolar depression, though its antidepressant efficacy is often underappreciated (it is one of the relatively few treatments that is licensed for both phases of bipolar disorder). Most importantly, it is the most effective maintenance treatment for bipolar disorder, reducing the frequency and severity of both manic and depressive recurrences over the long term. And it is the most robustly evidence-based treatment for the reduction of suicide risk in bipolar disorder and in depression more broadly: a large systematic review found that lithium reduces the rate of completed suicide by approximately 80 percent compared to placebo, an effect that is not entirely explained by its prevention of depressive episodes and that may reflect a specific anti-suicidal action.

The management of lithium treatment requires attention to pharmacokinetics and safety. Lithium is excreted almost entirely by the kidneys, and its clearance is closely tied to renal function and sodium balance. The therapeutic plasma level range is narrow: 0.6 to 1.2 mmol/L for maintenance treatment (higher, up to 1.2 to 1.5 mmol/L, for acute mania). Levels above 1.5 mmol/L are associated with toxicity, and levels above 2.0 mmol/L can produce serious and potentially fatal toxicity including severe neurological impairment. The factors that can raise lithium levels (and precipitate toxicity) in a patient on a previously adequate dose include dehydration (from diarrhea, vomiting, fever, excessive sweating in hot weather, or inadequate fluid intake), dietary sodium restriction, initiation of NSAIDs (which reduce renal lithium clearance), and initiation of ACE inhibitors or angiotensin receptor blockers. In Bangladesh, the risk of lithium toxicity is elevated by the hot climate (which promotes sweating and dehydration), the common occurrence of gastrointestinal illnesses that cause diarrhea and vomiting, the widespread use of NSAIDs for pain management, and the limited availability of laboratory monitoring in many settings.

The requirement for regular plasma level monitoring is a real barrier to lithium use in Bangladesh. Ideally, plasma levels should be checked weekly during dose initiation, then every three months when stable. Renal function (serum creatinine and electrolytes) and thyroid function (lithium causes hypothyroidism in 20 to 40 percent of patients on long-term treatment) should be checked every six months. Calcium levels should be monitored annually (lithium can cause hypercalcemia through its effects on parathyroid hormone secretion). In settings without reliable laboratory access, the decision to use lithium must weigh its unique benefits against the safety risks of inadequate monitoring. In major urban centers with laboratory facilities, the

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benefits clearly outweigh the risks for most patients with bipolar disorder. In rural areas without laboratory access, the practical barriers to safe lithium use are more significant and may shift the balance toward valproate as the primary mood stabilizer.

73.2 Valproate and Lamotrigine: Alternative and Complementary Mood Stabilizers

Sodium valproate (valproic acid, valproate semisodium) was established as an effective treatment for epilepsy in the 1960s and was recognized as a mood stabilizer through clinical observation in the 1980s, with controlled trials supporting its efficacy in acute mania in the early 1990s. Its mechanism of action is multiple and not fully elucidated, including inhibition of voltage-gated sodium channels, enhancement of GABAergic neurotransmission, and effects on histone deacetylase (producing epigenetic changes that may contribute to its mood-stabilizing effects).

Valproate is highly effective in acute mania and is easier to initiate than lithium in the acute phase because it can be rapidly loaded at high doses and does not require the same degree of titration. It is also effective in mixed states (episodes with simultaneous manic and depressive features) and may be superior to lithium for this presentation. For maintenance treatment, the evidence for valproate is weaker than for lithium, and it appears particularly less effective than lithium in preventing depressive episodes in bipolar disorder.

Valproate carries important risks that require attention. Hepatotoxicity is rare in adults but is a significant risk in children under two and in patients with hepatic metabolic disorders; liver function tests should be monitored. Pancreatitis is a rare but potentially serious complication. Polycystic ovarian syndrome, hyperandrogenism, and menstrual irregularities are more common in women taking valproate, with important implications for the many young women with bipolar disorder who take it. Most critically, valproate is a potent teratogen: it substantially increases the risk of major congenital malformations (particularly neural tube defects and cardiac abnormalities) and of neurodevelopmental impairment in children born to women who take it during pregnancy. The risk of neural tube defects is approximately 1 to 2 percent (compared to a background rate of approximately 0.1 to 0.2 percent), and the risk of autism spectrum disorder and cognitive impairment in exposed children is also substantially elevated. In Bangladesh, where women of reproductive age constitute a large proportion of patients with bipolar disorder and where access to preconception counseling and reliable contraception may be limited, the teratogenicity of valproate is a serious clinical and ethical concern that should influence prescribing decisions. Valproate should generally be avoided in women of childbearing potential unless they are using highly effective contraception and have been fully informed of the risks.

Lamotrigine is a mood stabilizer with a particular advantage in bipolar disorder: it is substantially more effective in preventing depressive episodes than manic episodes, complementing the profile of lithium and valproate (which are more effective against mania). This makes lamotrigine particularly useful in bipolar II disorder (characterized by hypomania and depression, without full manic episodes) and in bipolar I disorder with a predominantly depressive course. Lamotrigine's mechanism of action is primarily sodium channel blockade, reducing the presynaptic release of excitatory neurotransmitters (particularly glutamate), though its precise mood-stabilizing mechanism is unclear.

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The critical concern with lamotrigine is the risk of potentially serious and life-threatening skin reactions, particularly Stevens-Johnson syndrome and toxic epidermal necrolysis. These reactions are dose-related and concentration-related, meaning that rapid dose escalation substantially increases the risk. The fundamental rule of lamotrigine prescribing - the most important practical point about this medication - is that it must be started at a very low dose (typically 25 mg daily for two weeks) and increased very slowly over several weeks, halving the starting dose when combined with valproate (which inhibits lamotrigine glucuronidation, substantially increasing lamotrigine plasma levels). Any rash occurring during lamotrigine titration should be taken seriously and the drug discontinued until a specialist assessment is made. The strict titration schedule and the need to monitor for rash make lamotrigine somewhat demanding in clinical practice, but it is an extremely valuable medication for patients with bipolar depression.

73.3 Antipsychotics in Bipolar Disorder: A Rapidly Evolving Evidence Base

The recognition that many antipsychotics are effective mood stabilizers, at least for the acute manic phase and in some cases for maintenance treatment, has substantially expanded the pharmacological options in bipolar disorder management. Essentially all of the second-generation antipsychotics have demonstrated efficacy in acute mania in randomized controlled trials. The evidence for their efficacy in bipolar depression is more variable: quetiapine and lurasidone have the strongest evidence for bipolar depression, while aripiprazole and ziprasidone are less effective for this phase.

The use of antipsychotics in bipolar disorder has increased substantially over the past decade, partly reflecting the expansion of the evidence base and partly reflecting the practical advantages of some SGAs in terms of the ease of initiation and monitoring compared to lithium. However, the long-term metabolic consequences of antipsychotic use in bipolar disorder patients, who are already at elevated cardiovascular risk, and the absence of long-term comparative trials between antipsychotics and lithium for maintenance, mean that lithium should generally remain the preferred maintenance treatment for most patients with bipolar I disorder unless there are specific contraindications.

73.4 Bipolar Disorder in Bangladesh: Epidemiology, Diagnosis, and Treatment Challenges

Bipolar disorder in Bangladesh presents with a set of specific clinical, cultural, and healthcare challenges. The epidemiology of bipolar disorder in Bangladesh is based on limited data: the National Mental Health Survey 2019 did not specifically break out bipolar disorder as a distinct category with the same precision as depression and anxiety. Clinical series from NIMH suggest that bipolar disorder constitutes a substantial proportion of psychiatric outpatient and inpatient presentations, and international epidemiological studies suggest a lifetime prevalence of bipolar spectrum disorder in the range of 2 to 4 percent, which would translate to over 3 million Bangladeshis meeting criteria for a bipolar disorder.

The diagnosis of bipolar disorder in Bangladesh is complicated by several factors. First, the cultural expression of mania in Bangladesh may differ in some ways from the textbook Western picture. Elevated mood and grandiosity may be expressed through religious themes (believing

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one has special divine powers or a religious mission), which in a society with deep religious commitment may not be immediately recognized as pathological. Hypersexuality and decreased need for sleep may be particularly stigmatizing in the Bangladeshi cultural context. Second, the distinction between bipolar disorder and schizophrenia can be particularly difficult in acute presentations, particularly when psychotic features are present during manic episodes (as they are in a substantial proportion of severe bipolar I disorder presentations). The categorical diagnostic framework of ICD-10 and DSM-5 does not always provide clear guidance at the boundaries of these conditions. Third, the treatment of bipolar disorder in primary care and by non-specialist physicians is often inadequate: patients may be treated for depression with antidepressants alone, which can precipitate manic episodes, cycle acceleration, or a mixed state if mood stabilizers are not co-prescribed. Fourth, the long-term, indefinite nature of bipolar disorder treatment, which requires continued medication even during periods of wellness to prevent recurrence, conflicts with common patient and family expectations that treatment should have a defined end point when symptoms resolve.

The specific concerns about valproate in women of childbearing age, discussed above, are particularly important in Bangladesh given the relatively limited availability and use of reliable contraception in many populations, and the importance of preconception counseling, which requires that the woman is aware of her diagnosis and the implications of her medication.

CHAPTER SEVENTY-FOUR: ANXIOLYTICS, SEDATIVES, AND HYPNOTICS

74.1 The Benzodiazepines: Effective, Dangerous, and Overused

The benzodiazepines are among the most widely prescribed medications in the world and in Bangladesh. They produce reliable and rapid reduction of anxiety, sedation, muscle relaxation, and anticonvulsant effects through positive allosteric modulation of GABA-A receptors, increasing the frequency of chloride channel opening when GABA binds to the receptor and thereby enhancing inhibitory neurotransmission throughout the brain.

Their clinical utility is genuine and substantial for several specific indications. They are effective for the short-term management of acute anxiety and panic. They are essential in the management of alcohol withdrawal, where their GABAergic activity replaces the suppressed inhibitory neurotransmission that the withdrawal from alcohol has unmasked, preventing the potentially fatal complications of alcohol withdrawal including seizures and delirium tremens. They are valuable in the acute management of agitation in psychiatric emergencies, often combined with antipsychotics. They are used as anticonvulsants for status epilepticus and for the prevention of seizures in high-risk situations.

The fundamental problem with benzodiazepines is their risk of dependence with prolonged use. After as few as two to four weeks of regular use, many patients develop physiological dependence, meaning that their brain has adapted to the presence of the benzodiazepine and will produce withdrawal symptoms when the drug is reduced or discontinued. Benzodiazepine withdrawal symptoms include anxiety (often more severe than the original presenting anxiety, a

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phenomenon called "rebound anxiety"), insomnia, tremor, sweating, and in severe cases, seizures. This withdrawal syndrome makes discontinuation after prolonged use extremely difficult without careful gradual tapering.

Tolerance is a related problem: with chronic use, higher doses of benzodiazepine are required to produce the same anxiolytic effect. This drives dose escalation over time. The combination of tolerance and dependence produces the scenario, common in many clinical settings in Bangladesh, in which patients are maintained on high doses of benzodiazepines for years or decades, unable to discontinue because of withdrawal symptoms, and deriving decreasing benefit from the medication.

In Bangladesh, the overuse of benzodiazepines in both psychiatric and medical practice is a serious public health problem. Diazepam is cheap, widely available, and frequently prescribed by general physicians for anxiety, insomnia, and non-specific physical complaints. The prescription of diazepam for weeks or months at a time, without adequate assessment of the underlying condition or without clear plans for discontinuation, creates iatrogenic benzodiazepine dependence in large numbers of patients. The absence of adequate availability of non-pharmacological treatments for anxiety and insomnia, including cognitive-behavioral therapy, which is the most effective long-term treatment for both conditions, makes the overuse of benzodiazepines understandable even if it is not justifiable.

The management of established benzodiazepine dependence requires a structured, gradual dose reduction program, typically over several weeks to several months depending on the duration and degree of dependence. Cognitive-behavioral therapy specifically designed to support benzodiazepine discontinuation (CBT-D) has been shown to improve discontinuation success rates. The 2025 clinical practice guideline developed through systematic review and clinical consensus by the American Society of Addiction Medicine, which provides detailed recommendations for managing benzodiazepine use and tapering, recommends initial dose reductions of 5 to 10 percent every two to four weeks, with avoidance of abrupt discontinuation in any patient likely to be physically dependent because of the risk of withdrawal seizures. This guidance is relevant in principle to Bangladesh, though the organizational context (limited specialist support for structured tapers) requires adaptation.

74.2 Non-Benzodiazepine Anxiolytics and the Search for Safer Alternatives

The recognition of benzodiazepine dependence has driven the search for effective anxiolytics without dependence risk. Several alternatives have emerged.

Buspirone is a partial agonist at serotonin 5-HT1A receptors and a partial agonist/antagonist at D2 receptors, which produces anxiolytic effects without sedation, muscle relaxation, or dependence. Its main limitation is a delayed onset of action (two to four weeks to full effect), which makes it unsuitable for acute anxiety and which is often misinterpreted by patients as evidence of ineffectiveness, leading to premature discontinuation. For the management of generalized anxiety disorder in patients at risk of benzodiazepine misuse, buspirone is a valuable option that is underused in Bangladesh.

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Beta-blockers, particularly propranolol, are effective for the management of autonomic symptoms of anxiety (palpitations, tremor, sweating) and have a specific role in situational anxiety (performance anxiety) where they can be taken on an as-needed basis before anxiety-provoking situations. They are not effective for the cognitive and experiential dimensions of anxiety.

The SSRIs and SNRIs, as discussed in Chapter 71, are the most evidence-based long-term pharmacological treatments for anxiety disorders including generalized anxiety disorder, social anxiety disorder, panic disorder, PTSD, and OCD. They do not produce dependence in the same way as benzodiazepines and are the preferred pharmacological treatment when medication is indicated for long-term management of anxiety disorders.

Hydroxyzine, an antihistamine, has anxiolytic properties through H1 receptor blockade and is sometimes used as an alternative to benzodiazepines for short-term anxiety management. It does not produce dependence and has a low abuse potential, though it causes significant sedation.

Pregabalin, originally developed as an anticonvulsant, has demonstrated efficacy in generalized anxiety disorder and is approved for this indication in several countries. It works through binding to the alpha-2-delta subunit of voltage-gated calcium channels, reducing the release of excitatory neurotransmitters. It does not produce the same kind of physiological dependence as benzodiazepines, though some patients develop misuse behavior with it, particularly those with histories of substance use disorders. It is not widely available in Bangladesh.

74.3 Sleep Disorders and Hypnotics in Bangladesh

Insomnia is extraordinarily common in Bangladesh. It occurs as a symptom of virtually every psychiatric disorder (including depression, anxiety, PTSD, psychosis, and substance use disorders) and also presents as a primary condition. The somatic expression of psychological distress that characterizes many presentations in Bangladesh often includes prominent sleep complaints, and patients who do not recognize or disclose psychological distress may present to physicians with insomnia as their primary complaint.

The pharmacological management of insomnia in Bangladesh relies heavily on benzodiazepines and older sedating antihistamines, with the associated risks already discussed. Melatonin and melatonin agonists (ramelteon) represent safer alternatives for sleep-onset insomnia, particularly in older adults in whom sedative-hypnotics carry especially high risks of falls, cognitive impairment, and paradoxical agitation. The Z-drugs (zolpidem, zopiclone, zaleplon), which are non-benzodiazepine GABA-A receptor modulators, are widely used as hypnotics in high-income countries, but are available in Bangladesh at higher cost and should be used with caution given their dependence potential.

Cognitive-behavioral therapy for insomnia (CBT-I) is the most effective long-term treatment for primary insomnia and has demonstrated superiority over pharmacological treatment in maintaining benefit after treatment ends. CBT-I addresses the behavioral and cognitive factors that perpetuate insomnia, including conditioned arousal associated with the bed and bedroom, dysfunctional beliefs about sleep, sleep restriction therapy (paradoxically limiting time in bed to

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consolidate sleep), and stimulus control. CBT-I is not widely available in Bangladesh, but simplified versions delivered by trained general health workers represent a promising approach that has been piloted in several low-resource settings.

CHAPTER SEVENTY-FIVE: STIMULANTS AND MEDICATIONS FOR ADHD

75.1 ADHD in Bangladesh: Recognition, Epidemiology, and the Diagnostic Challenge

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by persistent, impairing symptoms of inattention, hyperactivity, and impulsivity that are present before age 12, occur in multiple settings, and represent a significant deviation from the developmental level of the individual. The ICD-11 diagnosis of attention deficit hyperactivity disorder aligns substantially with the DSM-5 category, though some differences in criteria exist.

The global prevalence of ADHD is estimated at approximately 5 percent of children and 2.5 percent of adults, making it one of the most common neurodevelopmental conditions. However, epidemiological data on ADHD from Bangladesh is sparse, and what exists suggests both that the condition is significantly underdiagnosed and that cultural factors shape its recognition and management in specific ways.

In Bangladesh, the behavior that would be diagnosed as ADHD in a Western setting is often interpreted through different frameworks. High motor activity and distractibility in children may be attributed to spiritual or supernatural causes, to poor parenting, to excessive food intake, or to the pressures of academic demands. The cultural expectation of quiet, obedient, and academically focused behavior in Bangladeshi children means that children with ADHD are often labeled as "naughty," "disobedient," or "stupid" rather than as having a neurodevelopmental condition. This labeling has significant negative consequences for self-esteem, family relationships, and educational attainment. The recognition of ADHD as a legitimate neurodevelopmental condition, rather than a behavioral or moral failing, is an important public health and clinical priority.

The diagnosis of ADHD in Bangladesh is complicated by several factors. First, the symptoms overlap with those of other conditions including anxiety disorders (which also impair concentration), depression (which also impairs concentration and motivation), learning disabilities, and child abuse and neglect (which can produce hyperactive and impulsive behavior). Second, standardized diagnostic assessment tools need cultural adaptation and normative data from Bangladeshi populations, which are largely unavailable. Third, the hyperactivity-dominant presentation of ADHD, which is more visible and disruptive, is more likely to lead to referral for assessment than the inattentive presentation, which is more common in girls and may be missed entirely. Fourth, co-occurring intellectual disability is common in Bangladeshi children with ADHD (partly reflecting the higher rates of perinatal risk factors in Bangladesh), which complicates both diagnosis and management.

75.2 Pharmacological Treatment of ADHD: Stimulants and Non-Stimulants

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The pharmacological treatment of ADHD is dominated by two classes of medications: stimulants (methylphenidate and amphetamine-based compounds) and non-stimulants (atomoxetine, guanfacine, clonidine). The stimulants are the most effective pharmacological treatment for ADHD, with large effect sizes in randomized controlled trials in children and moderate effect sizes in adults.

Methylphenidate (Ritalin) inhibits the reuptake of dopamine and norepinephrine into the presynaptic neuron, increasing their availability in the synapse. The effect of this, paradoxically given the drug's stimulant properties, is to improve attention, reduce distractibility, and decrease hyperactivity and impulsivity in individuals with ADHD. The evidence base for methylphenidate is extensive: it is one of the most studied medications in all of medicine, with hundreds of randomized controlled trials demonstrating efficacy in ADHD across the age range. Methylphenidate is available in immediate-release and extended-release formulations; the extended-release formulations, which provide smoother and more sustained effects across the school day, are generally preferred for school-aged children.

The safety and tolerability profile of methylphenidate is well characterized. Common side effects include appetite suppression (with potential impact on growth in children, which is manageable through dosing strategies that minimize appetite suppression during meal times), sleep onset insomnia (particularly with afternoon doses), headache, abdominal pain, and mood changes including irritability. Cardiovascular effects (modest increases in heart rate and blood pressure) are present and require consideration in patients with pre-existing cardiac conditions. The risk of substance misuse or diversion is a concern that has been raised about stimulants, particularly in adolescents and young adults, though the evidence suggests that properly diagnosed and treated ADHD itself is a risk factor for substance misuse, and that effective stimulant treatment actually reduces this risk rather than increasing it.

In Bangladesh, methylphenidate has a complicated regulatory history. Its classification as a controlled substance under international drug conventions has limited its availability, and it has not been routinely stocked in most pharmacies. The practical consequence is that many children with ADHD in Bangladesh who could benefit from stimulant medication cannot access it, either because it is unavailable locally or because the regulatory requirements for prescribing controlled substances create barriers. Advocacy for the improvement of access to methylphenidate and other essential ADHD medications within appropriate regulatory frameworks is an important health policy priority.

Atomoxetine, a selective norepinephrine reuptake inhibitor, is a non-stimulant alternative for ADHD that is not classified as a controlled substance. It has a delayed onset of action (two to four weeks to full effect) and is somewhat less effective than stimulants for most patients, but it does not carry the same regulatory restrictions and has the advantage of 24-hour effect with once-daily dosing. It is particularly useful for patients with ADHD and comorbid anxiety (where stimulants can worsen anxiety), and for those in whom stimulant misuse is a concern. Atomoxetine is generally available in Bangladesh and represents a practical first-line pharmacological option for ADHD in settings where stimulants cannot be accessed.

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Guanfacine and clonidine, alpha-2 adrenergic agonists, have efficacy in ADHD, particularly for hyperactivity and impulsivity symptoms, and are particularly useful when there is comorbid tic disorder (where stimulants may worsen tics), PTSD, or when sleep initiation difficulties are prominent. As noted earlier, a new oral solution form of clonidine (Javadin) received FDA approval in October 2025, which may improve its practical usability in some clinical contexts.

75.3 Non-Pharmacological Approaches to ADHD: Essential Complements to Medication

While this Part focuses on biological treatments, it is essential to emphasize that pharmacological treatment of ADHD alone is insufficient for optimal outcomes. The evidence-based management of ADHD integrates medication with behavioral interventions, parent training, educational accommodations, and in some cases, individual psychological therapy.

Parent training programs, which teach parents specific behavioral strategies for managing ADHD-related behaviors and for supporting the child's development, are among the most evidence-based interventions for ADHD in childhood, with efficacy demonstrated in numerous controlled trials. The Incredible Years program, the Triple P program, and several ADHD-specific parent training programs have been developed and tested. Cultural adaptation of these programs for Bangladeshi families is needed and is a research priority.

Educational accommodations, including extended time for examinations, reduced distraction in testing environments, and structured classroom support, can significantly improve academic functioning in children with ADHD. Advocating for these accommodations within Bangladesh's educational system, which places enormous emphasis on examination performance and which has limited capacity for special educational support, is a practical challenge that requires engagement between mental health professionals, educators, and policy-makers.

CHAPTER SEVENTY-SIX: PHARMACOLOGICAL TREATMENT OF SUBSTANCE USE DISORDERS

76.1 The Pharmacology of Addiction: Neural Mechanisms and Treatment Targets

Addiction, understood as a severe substance use disorder characterized by compulsive drug use despite harmful consequences, loss of control over use, and intense craving, is now well recognized as a disorder of brain reward, motivation, and learning circuits. The mesolimbic dopamine system, which connects the ventral tegmental area to the nucleus accumbens, prefrontal cortex, amygdala, and hippocampus, is central to the neurobiology of addiction. Virtually all addictive substances, whether directly or indirectly, increase dopamine release in the nucleus accumbens, producing the subjective experience of reward and reinforcing drug-seeking behavior through classical and operant conditioning.

The pharmacological treatment of substance use disorders aims to address multiple aspects of the addictive process: reducing the physiological discomfort of withdrawal (allowing the individual to stop using without intolerable suffering), blocking the rewarding effects of the drug

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(reducing the reinforcement that maintains use), reducing craving (the intense desire to use that is triggered by cues associated with previous drug use), and treating comorbid psychiatric conditions (depression, anxiety, and PTSD frequently co-occur with substance use disorders and contribute to relapse if untreated).

76.2 Opioid Use Disorder: Medications for Opioid Use Disorder and Harm Reduction

Opioid use disorder (OUD), characterized by compulsive use of opioids (including heroin, pharmaceutical opioids, and in Bangladesh, codeine-based cough syrups like fensedyl, and opium) with associated physiological dependence and severe social and health consequences, is a major public health problem in Bangladesh. The management of OUD has been transformed in high-income countries by the availability of effective medications for opioid use disorder (MOUD), which dramatically reduce mortality, reduce illicit drug use, reduce criminal activity, and improve social functioning.

The three FDA-approved (and WHO Essential Medicine List-listed) medications for OUD are methadone, buprenorphine (with or without naloxone), and naltrexone.

Methadone is a long-acting full opioid agonist that, when taken daily as oral liquid at an adequate dose, eliminates withdrawal symptoms, suppresses craving, and blocks the euphoric effects of illicit opioids (because the opioid receptors are already fully occupied by methadone). Methadone maintenance treatment (MMT) has the strongest evidence base of any treatment for OUD, with controlled trials and observational studies consistently demonstrating substantial reductions in heroin use, overdose deaths, HIV transmission, and criminal activity. The limitation of methadone is its risk of overdose if misused (it has a long half-life and cardiac effects including QTc prolongation) and the requirement for supervised dispensing, typically from specialized methadone clinics, which limits its scalability in settings with limited infrastructure.

Buprenorphine, a partial opioid agonist at the mu-opioid receptor, has a "ceiling effect" on respiratory depression, making it substantially safer in overdose than methadone. Combined with naloxone (an opioid antagonist) in sublingual tablet or film formulations (Suboxone), it prevents misuse by injection because injected naloxone reverses the opioid effect. Buprenorphine maintenance treatment (BMT) has efficacy comparable to MMT for most patients and can be dispensed in primary care settings by trained physicians, which substantially improves its scalability compared to methadone. The WHO added buprenorphine to its Essential Medicines List in 2005, reflecting its importance as a treatment for OUD globally.

In Bangladesh, the situation of MOUD is a major policy failure. Despite the significant burden of OUD, particularly from fensedyl and from heroin in some urban and border populations, MOUD is essentially unavailable in Bangladesh through the public health system. The legal and regulatory framework for opioid medicines is restrictive, reflecting concerns about diversion, and there is no organized system for providing buprenorphine or methadone maintenance treatment. The consequences of this policy failure are borne by people with OUD and their families: continued drug use, transmission of HIV and hepatitis C through needle sharing, overdose deaths, and profound social disruption. Advocacy for the establishment of a functional

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MOUD program in Bangladesh, as a specific and urgent public health priority, is a responsibility of the mental health and public health communities.

Naltrexone, an opioid antagonist, works differently from methadone and buprenorphine: it blocks opioid receptors, preventing any opioid from producing its effect. It requires detoxification from opioids before initiation (because it will precipitate acute withdrawal in opioid-dependent individuals if given before the opioid has cleared). Extended-release injectable naltrexone (Vivitrol), administered monthly by intramuscular injection, eliminates the adherence problem associated with oral naltrexone and has demonstrated efficacy in preventing OUD relapse. The monthly injection formulation may be particularly practical in settings where daily dispensing is logistically challenging.

76.3 Alcohol Use Disorder: Medications and the Challenge of Underrecognition

Alcohol use disorder in Bangladesh presents in a specific epidemiological and cultural context. Alcohol consumption is prohibited by Islam, which is the religion of approximately 90 percent of the Bangladeshi population, and this prohibition shapes both the patterns of use (which are largely hidden and socially stigmatized) and the responses to alcohol problems (which are often rooted in religious frameworks rather than medical ones). Despite the religious prohibition, alcohol use disorder does occur in Bangladesh, though its exact prevalence is unknown and the data from the National Mental Health Survey 2019 was limited.

The pharmacological management of alcohol use disorder includes medications for acute withdrawal and medications for relapse prevention. Acute alcohol withdrawal is a potentially life-threatening medical emergency, characterized in its most severe form by delirium tremens (confusion, agitation, fever, cardiovascular instability, and seizures), which has a significant mortality rate if untreated. Benzodiazepines are the standard of care for alcohol withdrawal management, replacing the alcohol's GABAergic effect and preventing seizures and delirium. Adequate benzodiazepine dosing guided by standardized symptom monitoring instruments (such as the Clinical Institute Withdrawal Assessment for Alcohol, CIWA-Ar) is essential and should be the standard of care in any hospital in Bangladesh admitting patients with alcohol withdrawal.

Medications for relapse prevention in alcohol use disorder include naltrexone (which reduces the rewarding effects of alcohol by blocking opioid receptors that mediate some of alcohol's pleasurable effects), acamprosate (which reduces craving by modulating glutamate neurotransmission), and disulfiram (which produces an unpleasant physical reaction when alcohol is consumed, by inhibiting the enzyme acetaldehyde dehydrogenase and allowing the toxic intermediate acetaldehyde to accumulate). All three medications have evidence for efficacy in reducing alcohol consumption and promoting abstinence when combined with psychosocial support. In the Bangladesh context, naltrexone is the most practical option, as it is available at moderate cost and does not require the same level of monitoring as disulfiram.

76.4 The Yaba Crisis in Bangladesh: A Pharmacological and Public Health Perspective

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Yaba, the combination of methamphetamine and caffeine in tablet form, has emerged as the dominant illicit drug of concern in Bangladesh over the past decade and constitutes one of the most serious substance use public health crises in the country. The tablet, which is usually orange or red-colored and carries a logo (typically "WY" or "R"), is manufactured primarily in Myanmar and trafficked across the border into Bangladesh. From being a relatively rare substance in the early 2010s, yaba spread with remarkable speed, initially among urban youth and sex workers in Dhaka and Cox's Bazar, and subsequently into progressively younger and more diverse populations, including secondary school students in some areas.

Methamphetamine is a potent central nervous system stimulant that produces its effects primarily through massive release of dopamine, norepinephrine, and serotonin from presynaptic nerve terminals, far exceeding the release produced by the brain's natural stimuli. The subjective effects include intense euphoria, increased energy and wakefulness, decreased appetite, enhanced sexual drive, and a powerful sense of focus and capability. The neurobiological consequences of repeated methamphetamine use are profound: the dopamine system is structurally and functionally damaged, with reduced dopamine transporter density, lower dopamine release capacity, and progressive deterioration of the mesolimbic reward circuitry. These neuroadaptive changes underlie the severe anhedonia (inability to experience pleasure from normal activities) that characterizes methamphetamine withdrawal and that is a major driver of relapse.

Methamphetamine use disorder produces severe psychiatric complications including methamphetamine-induced psychosis, a syndrome of paranoid delusions and auditory and visual hallucinations that can be clinically indistinguishable from schizophrenia, but that typically resolves with abstinence over days to weeks. Chronic methamphetamine use can also produce persistent psychiatric symptoms even after extended abstinence, and there is evidence that heavy methamphetamine use is associated with structural brain changes including grey matter loss in the prefrontal cortex and other regions.

Pharmacological treatment of methamphetamine use disorder is an active area of research. Unlike OUD, there is currently no approved pharmacological agent that is effective for relapse prevention in methamphetamine use disorder. Bupropion, at higher doses, has shown some evidence of benefit in certain populations. Naltrexone has modest evidence. The combination of naltrexone and bupropion showed some efficacy in a 2021 NEJM trial. Methamphetamine vaccines, which would generate antibodies that bind to methamphetamine and prevent it from crossing the blood-brain barrier, are in early development and represent a potentially transformative approach. As of 2025, none of these approaches has produced a clear, widely approved pharmacological treatment for methamphetamine use disorder, making behavioral and psychosocial approaches (contingency management, which uses positive reinforcement to reward drug-free urine tests, has the strongest evidence base) the mainstay of treatment.

In Bangladesh, the response to the yaba crisis has primarily been through law enforcement rather than through health and treatment approaches. While law enforcement has a legitimate role in reducing drug supply, the criminalization of drug use without investment in treatment capacity leaves hundreds of thousands of Bangladeshis with methamphetamine use disorder without access to effective care. The development of treatment capacity for stimulant use

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disorders, including training health workers in the recognition and evidence-based management of stimulant use disorders and the establishment of community-based harm reduction and recovery services, is an urgent public health priority.

CHAPTER SEVENTY-SEVEN: ELECTROCONVULSIVE THERAPY AND NEUROMODULATION TREATMENTS

77.1 Electroconvulsive Therapy: The Most Controversial but Genuinely Effective Treatment in Psychiatry

No treatment in psychiatry generates as much controversy, popular fear, and critical scrutiny as electroconvulsive therapy (ECT). Its association with scenes of screaming patients being held down on metal tables and subjected to unmodified convulsions has been burned into the cultural memory through fictional representations, most notably the 1975 film adaptation of Ken Kesey's novel "One Flew Over the Cuckoo's Nest." This imagery, profoundly misleading as a representation of modern ECT practice, continues to shape public and patient attitudes toward a treatment that, when properly administered with modern techniques, is safe, effective, and in some clinical situations, life-saving.

The history of ECT begins with Ugo Cerletti and Lucio Bini's demonstration in Rome in 1938 that electrically induced seizures could produce clinical improvement in psychotic patients. Their original choice of electrical current to induce seizures was partly motivated by the observation that the convulsions produced by metrazol (then in use as a convulsive therapy) were terrifying to patients and difficult to control. Electrical induction offered more precise control of the seizure induction process. The early ECT, however, was administered without anesthesia or muscle relaxation, producing a full grand mal seizure with all its violent physical manifestations, including broken bones from the force of muscle contractions, fractured vertebrae, and the extreme distress of the patient who was conscious up to and immediately after the seizure. This unmodified ECT, while effective, was genuinely traumatic and was appropriately criticized as inhumane.

Modern ECT is a fundamentally different procedure. It is administered under brief general anesthesia (typically with propofol or methohexital), so the patient is completely unconscious during the procedure. A muscle relaxant (usually succinylcholine) is given intravenously, producing complete muscular paralysis so that the only visible manifestation of the induced seizure is a brief twitching of the feet (which can also be prevented by applying a blood pressure cuff to isolate the foot from the systemic succinylcholine). The electrical stimulus is applied through electrodes placed either bilaterally (on both temporal regions) or unilaterally (on the non-dominant hemisphere, typically the right side). The seizure, which typically lasts 20 to 60 seconds of EEG activity, is monitored electrographically. The entire procedure takes approximately 15 to 20 minutes, and the patient recovers from the anesthesia within 30 minutes and is typically fully alert within an hour.

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Modern ECT is administered in a course of typically 6 to 12 treatments, given at a frequency of three times per week (though twice-weekly and once-weekly schedules are also used). After the acute course, maintenance ECT can be given at monthly or less frequent intervals to prevent relapse in patients with recurrent conditions.

77.2 The Evidence Base for ECT: Indications and Efficacy

The evidence for ECT's efficacy in severe depression is compelling and consistent. Multiple randomized controlled trials, systematic reviews, and meta-analyses have established that ECT produces response in approximately 50 to 70 percent of patients with severe or treatment-resistant depression, including many who have failed multiple adequate antidepressant trials. This efficacy is substantially higher than that of pharmacological treatment in the same population. For patients with melancholic depression (characterized by profound anhedonia, diurnal variation, early morning awakening, and weight loss), psychotic depression (depression with delusions or hallucinations), catatonic depression, and severe depression with high risk of suicide or life-threatening malnutrition, ECT is a first-line treatment, not a last resort.

The therapeutic mechanism of ECT remains incompletely understood despite decades of research. Proposed mechanisms include downregulation of brain beta-adrenergic receptors, enhancement of monoaminergic neurotransmission, modulation of the HPA axis stress response, promotion of neuroplasticity and neurogenesis (particularly in the hippocampus), anti-inflammatory effects, and changes in the default mode network that may underlie the ruminative thought patterns of depression. The fact that seizure induction is necessary for the therapeutic effect (sham ECT, in which all the procedures are performed but no electrical current is delivered, is much less effective than real ECT) establishes that the seizure itself, and not simply the anesthesia or the structured nature of the procedure, is the therapeutic agent.

ECT has established efficacy in several other conditions beyond depression. It is effective in acute mania, including mania that is refractory to pharmacological treatment. It is the treatment of choice for catatonia (a syndrome of motor immobility, mutism, and negativism that can occur in schizophrenia, mood disorders, and medical conditions) that does not respond to benzodiazepines. In treatment-resistant schizophrenia, ECT combined with clozapine has demonstrated efficacy in patients who have failed to respond adequately to either treatment alone. Neuroleptic malignant syndrome, a rare but potentially fatal complication of antipsychotic treatment characterized by fever, rigidity, autonomic instability, and altered consciousness, has been successfully treated with ECT. Parkinson's disease, particularly when complicated by severe depression or treatment-resistant motor symptoms, has shown improvement with ECT.

The side effects of modern ECT are primarily cognitive. Some degree of confusion and disorientation immediately after each treatment is almost universal, lasting minutes to an hour. More significant is anterograde amnesia (impaired ability to form new memories during the course of treatment) and retrograde amnesia (loss of memories from the period around the time of treatment, which typically extends back days to weeks but can in some cases extend months). The amnesia resolves substantially after the course of ECT is completed, but some patients report persistent memory problems that can last for months or longer, and a subset of patients

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describes persistent subjective memory impairment that is not always captured by standard neuropsychological testing. These cognitive effects are the primary reason for the continuing controversy about ECT and for the concern of some patients and patient advocates.

The cognitive side effects of ECT are substantially reduced by several modifications: using right unilateral electrode placement (which spares the language-dominant left hemisphere from the main electrical field), using brief or ultra-brief pulse width stimulation (which produces adequate seizure induction with less cognitive side effect than older sine-wave or brief-pulse devices), and adjusting stimulus parameters to the minimum necessary for adequate seizure induction. Modern ECT practice using right unilateral ultra-brief pulse stimulation produces significantly less cognitive side effect than older techniques while maintaining efficacy for most patients.

77.3 ECT in Bangladesh: Current Practice, Challenges, and Ethical Issues

ECT is available in Bangladesh, primarily at NIMH and at a small number of other tertiary facilities. The availability of anesthesia services for modified ECT is a critical prerequisite that limits its availability to hospitals with adequate anesthesia infrastructure. The practice of unmodified ECT (ECT without anesthesia) is still reported in some settings in Bangladesh and the broader South Asian region, and represents a serious ethical and clinical concern: unmodified ECT is significantly more traumatic for the patient, carries higher risk of physical injury, and is not consistent with contemporary standards of medical care.

The ethical issues surrounding ECT in Bangladesh, including the adequacy of informed consent, the training of practitioners, and the oversight of its use, were discussed in Chapter 65 of Part Fourteen. Here we note the clinical implications. For the substantial minority of patients with severe, treatment-resistant depression in Bangladesh who could benefit from ECT, access barriers include geographical limitation (available only in Dhaka and a few other centers), cost, the fear and stigma associated with ECT, and inadequate referral pathways from district hospitals to the specialized centers where ECT is performed.

The clinical case for expanding access to properly administered modern ECT in Bangladesh is strong. Severe and psychotic depression, which is life-threatening and which may not respond to antidepressants alone, is not an uncommon presentation in Bangladesh. The mortality of untreated severe depression from suicide is substantial. ECT, when properly administered with modern techniques, is an effective and relatively safe treatment that could prevent deaths and suffering in this population. The investment required to establish this capacity in a small number of well-equipped regional centers, including the training of psychiatrists and anesthesiologists in ECT technique, the procurement of appropriate equipment, and the development of informed consent processes, is modest relative to the clinical benefit.

77.4 Transcranial Magnetic Stimulation and Other Forms of Neuromodulation

Transcranial magnetic stimulation (TMS) uses rapidly alternating magnetic fields to induce electrical currents in specific regions of the brain, producing either stimulation or inhibition of neural activity depending on the frequency of the magnetic pulses. Repetitive TMS (rTMS),

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delivered in therapeutic courses, has been demonstrated to have antidepressant effects in randomized controlled trials, though its efficacy is generally less than that of ECT and it requires longer courses (typically 20 to 30 daily sessions) to produce therapeutic benefit.

rTMS received FDA approval for the treatment of major depressive disorder in 2008 and has become increasingly integrated into the management of treatment-resistant depression in high-income countries. Deep TMS, which uses a different coil design to stimulate deeper brain structures, received FDA approval for OCD in 2018 and for smoking cessation in 2020, with more recent indications under investigation.

The advantages of rTMS over ECT include its non-invasiveness (no anesthesia required), its absence of significant cognitive side effects, and its applicability in outpatient settings without hospital admission. Its limitations include its lower efficacy than ECT for severe depression, its requirement for daily attendance over several weeks, and its relatively high cost (the equipment is expensive and the sessions are time-consuming). These limitations substantially reduce its practical accessibility in Bangladesh, where the cost of TMS equipment is prohibitive and where patient logistical constraints (distance from treatment centers, inability to attend daily for multiple weeks) are significant barriers.

Transcranial direct current stimulation (tDCS) is a related technique that uses very low direct electrical current applied through scalp electrodes to modulate neural excitability, producing either increased (anodal stimulation) or decreased (cathodal stimulation) cortical excitability over the stimulated region. The equipment for tDCS is far cheaper than for TMS, and the technique can potentially be self-administered at home with appropriate training and supervision. Evidence for the efficacy of tDCS in depression has accumulated substantially over the past decade, with a large randomized controlled trial (the ELECT-TDCS trial in Brazil) finding it superior to placebo and comparable to the SSRI escitalopram in some parameters. The potential for tDCS to be used in low-resource settings, including in Bangladesh, as a cost-effective neuromodulation approach for depression is an active area of research interest, though the evidence base is not yet strong enough to recommend its routine clinical use.

Deep brain stimulation (DBS), which involves the surgical implantation of electrodes in specific brain regions (particularly the subgenual anterior cingulate cortex, the ventral capsule/ventral striatum, and the medial forebrain bundle) and continuous electrical stimulation of these regions, has been investigated as a treatment for severe treatment-resistant depression. The results of DBS trials have been mixed, and as of 2025, DBS for depression remains an investigational treatment confined to research settings. Its surgical nature makes it relevant for Bangladesh only in highly specialized research contexts.

Ketamine and esketamine, discussed in the context of antidepressants, are sometimes classified as neuromodulatory treatments given their rapid and profound effects on synaptic plasticity, and are increasingly used in specialized treatment centers globally. Psychedelic-assisted therapy, while still in clinical trial stage, represents a form of neuromodulation that alters the brain's processing of experiential and emotional information in ways that may be durable after only one or two sessions.

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77.5 Phototherapy and Chronotherapy: Biological Treatments for Seasonal and Circadian Disorders

Light therapy (phototherapy) involves daily exposure to bright artificial light of standardized intensity (typically 10,000 lux for 20 to 30 minutes in the morning), and is the treatment of choice for seasonal affective disorder (SAD), a form of depression that occurs predictably in the autumn and winter months in association with reduced daylight. Light therapy is also effective for non-seasonal depression when added to antidepressant medication, with several randomized controlled trials demonstrating superiority of combined light therapy plus antidepressant over antidepressant alone.

Seasonal affective disorder has been less studied in Bangladesh and other tropical countries, where seasonal variation in daylight hours is less extreme than in high latitudes. However, the monsoon season, with its prolonged cloud cover and reduced outdoor activity, may produce a milder but clinically recognizable seasonal pattern in some vulnerable individuals. More broadly, the disruption of circadian rhythms by shift work, night-time artificial light exposure, and urban sleep disruption may contribute to mood disorders in the large and growing Bangladeshi urban population, making chronobiological approaches (including appropriate light exposure, sleep regularization, and lifestyle modifications that support circadian health) relevant in the Bangladesh context.

CHAPTER SEVENTY-EIGHT: PHARMACOGENOMICS AND PRECISION PSYCHOPHARMACOLOGY

78.1 The Promise and Current Limits of Pharmacogenomic Testing

The field of pharmacogenomics investigates how genetic variation influences drug response, with the dual goals of predicting which patients will respond to particular medications and which will experience adverse effects, and of identifying patients for whom dose adjustments are needed based on their genetic metabolizer status. In psychiatry, pharmacogenomic testing has been an active area of research and commercial development, with several companies offering clinical pharmacogenomic panels that claim to guide psychiatric medication selection.

The genetic variants most relevant to psychiatric pharmacogenomics are those affecting the cytochrome P450 enzymes, particularly CYP2D6, CYP2C19, and CYP2C9, which metabolize a large proportion of psychiatric medications. As noted in Chapter 70, these enzymes show substantial genetic variation, resulting in poor, intermediate, extensive, and ultrarapid metabolizer phenotypes with clinically significant differences in drug metabolism rates. For a poor metabolizer of CYP2D6 treated with a standard dose of a CYP2D6-metabolized antidepressant, plasma levels may be two to five times higher than in an extensive metabolizer, significantly increasing the risk of side effects and toxicity. For an ultrarapid metabolizer, the same dose may produce subtherapeutic plasma levels and treatment failure.

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The clinical utility of pharmacogenomic testing is a subject of active debate. The strongest evidence supports testing for CYP2D6 and CYP2C19 variants to guide initial dosing decisions for medications that are extensively metabolized by these enzymes. The FDA has updated labels for numerous psychiatric medications to include pharmacogenomic information. Professional guidelines from organizations including the Clinical Pharmacogenomics Implementation Consortium (CPIC) provide recommendations for adjusting doses based on metabolizer phenotype for specific drug-gene pairs, including fluoxetine, paroxetine, and codeine (CYP2D6), escitalopram and citalopram (CYP2C19), and several antidepressants and antipsychotics.

However, the most commercially available pharmacogenomic panels test many more gene variants than have strong evidence for clinical utility, and the algorithms used to generate treatment recommendations often incorporate clinical factors as well as genetic factors in ways that are not fully transparent. A 2019 Canadian trial (PRIME Care trial) found that pharmacogenomics-guided prescribing improved remission rates in depression compared to standard prescribing; other trials have shown smaller or more variable benefits. The field is still in development and the evidence base is not yet strong enough to support universal adoption of pharmacogenomic testing as a standard-of-care tool.

For Bangladesh, the practical implications of pharmacogenomics are complex. The genetic architecture of Bangladeshi populations, which reflects a mix of South Asian, Tibeto-Burman, and other ancestral populations, differs from the European populations in which most pharmacogenomic research has been conducted. The distribution of metabolizer phenotypes at CYP2D6, CYP2C19, and other relevant loci in Bangladeshi populations is not well characterized and requires dedicated research. Without adequate normative data from Bangladeshi populations, the application of pharmacogenomic algorithms developed from European data may lead to inaccurate predictions.

The cost of pharmacogenomic testing, while falling rapidly, remains significant in the Bangladesh context. The clinical infrastructure for pharmacogenomic testing (laboratory facilities, genetic counseling, systems for integrating test results into prescribing decisions) is not widely available in Bangladesh. In the immediate term, practical attention to metabolizer phenotype can be approximated clinically through careful monitoring of plasma drug levels, which are more accessible in some settings than genetic testing, and through attention to known drug interactions that affect CYP enzyme activity.

78.2 Biomarker-Guided Treatment in Psychiatry: Beyond Pharmacogenomics

The vision of precision psychiatry extends beyond pharmacogenomics to incorporate a broader set of biological markers that might predict treatment response and guide selection. Several candidate biomarkers are currently under active investigation.

Inflammatory biomarkers, including C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-alpha), are elevated in a substantial subset of depressed patients and may identify a biologically distinct subtype of depression in which neuroinflammation is a prominent pathophysiological mechanism. Several clinical trials have found that anti-inflammatory treatments (including non-steroidal anti-inflammatory drugs, minocycline, and

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infliximab) are effective in the subset of depressed patients with elevated inflammatory markers, suggesting that inflammatory biomarkers could guide selection of anti-inflammatory adjunctive treatments. A 2025 report from the precision psychiatry field described ongoing trials embedding inflammatory biomarker measurement into treatment selection algorithms for depression.

Neuroimaging biomarkers, including structural MRI markers of hippocampal and prefrontal volume, functional MRI markers of connectivity in the default mode network and the subgenual anterior cingulate, and EEG biomarkers of frontal asymmetry and alpha power, have been investigated as predictors of antidepressant response. In 2025, a company operating in precision psychiatry reported the prospective identification and replication of an EEG biomarker that captures brain activity patterns in people with major depressive disorder that are more likely to elicit a larger response to placebo - a clinically important biomarker for trial design and potentially for guiding treatment allocation. While the translation of these biomarkers to routine clinical practice is not yet achieved, the research direction is productive and may yield clinically useful tools within the coming decade.

For Bangladesh, the development and validation of biomarkers relevant to Bangladeshi populations is an important research priority. Inflammatory profiles may differ in Bangladesh from high-income country populations, given the different infectious disease burden, nutritional status, and environmental exposures. The development of low-cost, point-of-care biomarker assays that could be implemented in resource-limited settings would be a particularly valuable contribution to global mental health.

CHAPTER SEVENTY-NINE: PRESCRIBING FOR SPECIAL POPULATIONS

79.1 Pharmacotherapy in Pregnancy and Postpartum: Navigating Competing Risks

The pharmacological management of psychiatric disorders in pregnant and postpartum women presents one of the most clinically and ethically challenging scenarios in all of psychopharmacology. The clinician must navigate between the risks of medication exposure to the developing fetus or newborn and the risks of untreated or inadequately treated psychiatric illness to both the mother and the developing child.

The first principle is that the risk of untreated psychiatric illness during pregnancy is real and substantial. Severe depression, bipolar disorder, and psychotic disorders during pregnancy are associated with increased rates of preterm birth, low birth weight, poor prenatal care, substance use, and maternal suicide. Postpartum psychosis, which occurs in approximately 1 to 2 per thousand deliveries and typically presents within the first two weeks after delivery with rapidly evolving psychosis, mania, and confusion, is a psychiatric emergency associated with significant risk of maternal infanticide and suicide. These outcomes represent concrete harms that must be weighed against the risks of medication.

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The second principle is that medication risks during pregnancy vary widely and must be assessed individually. No psychotropic medication is entirely without risk to the developing fetus, but the risks differ greatly between medications and between stages of pregnancy. The teratogenicity of valproate, already discussed, is the most serious concern in mood disorder pharmacology during pregnancy. Lithium was long believed to carry a high risk of the cardiac defect Ebstein's anomaly, but more recent and better-designed epidemiological studies have substantially downgraded this risk, and lithium is now considered a viable option for many women with bipolar disorder who are pregnant, particularly in the second and third trimester when organogenesis is complete. Among antidepressants, the SSRIs are generally considered to have the most favorable safety profile in pregnancy, though paroxetine has been associated with a small increased risk of cardiac defects and should be avoided. SSRI use in late pregnancy has been associated with a neonatal adaptation syndrome (a mild, transient syndrome of jitteriness, feeding difficulties, and tachycardia) that resolves within a few days without specific treatment, and with a small increased risk of persistent pulmonary hypertension of the newborn (PPHN), though the absolute risk of PPHN is low.

Among antipsychotics, the FGAs and most SGAs have not been found to be major teratogens, though data are limited for the newer agents. The metabolic effects of some SGAs (particularly olanzapine and quetiapine) may contribute to gestational diabetes, which is itself a risk factor for adverse pregnancy outcomes. Careful monitoring of weight gain and blood sugar is essential in pregnant women on SGAs.

The management of psychiatric conditions in pregnant women in Bangladesh requires individualized risk-benefit analysis, with careful discussion with the patient and her family. In many cases, the optimal approach involves continuing effective medication with dose adjustments appropriate to the pharmacokinetic changes of pregnancy (most psychotropics require dose increases in the second and third trimesters due to increased volume of distribution and altered hepatic metabolism), supplemented by close obstetric monitoring and, where possible, psychosocial support. The decision to discontinue medication in early pregnancy, which is a common approach in many clinical settings in Bangladesh, must be made with full awareness of the risk of psychiatric relapse during pregnancy, and with a clear plan for monitoring and managing relapse if it occurs.

79.2 Psychopharmacology in Children and Adolescents

The pharmacological management of psychiatric conditions in children and adolescents requires particular care for several reasons. First, the developing brain may respond differently to psychotropic medications than the adult brain, with potentially more pronounced effects on neurodevelopment. Second, the evidence base for many psychiatric medications is substantially thinner in children than in adults, with fewer randomized controlled trials and less long-term safety data. Third, children and adolescents cannot give independent informed consent (parental consent is required), raising specific ethical questions about assent from the young person, the balance of parental versus patient authority, and the management of disagreement between parent and child about treatment.

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Stimulant medications for ADHD have the strongest evidence base in child and adolescent psychopharmacology, with decades of randomized controlled trial evidence supporting their efficacy and safety when properly prescribed and monitored. Antidepressants in children and adolescents require more caution: the FDA has issued a black box warning about the risk of suicidality (suicidal thoughts and behaviors, though not completed suicide) associated with antidepressant use in children and adolescents, based on a pooled analysis of clinical trial data showing a small but statistically significant increase in suicidal ideation in the medication groups compared to placebo. This risk must be weighed against the risk of untreated depression, which is itself a major risk factor for suicide. Fluoxetine, which has the strongest evidence base among SSRIs in pediatric depression, is generally considered the preferred first-line antidepressant for children and adolescents when medication is indicated, and close monitoring for worsening depression or suicidal ideation in the first weeks of treatment is essential.

Antipsychotics in children and adolescents are indicated for psychotic disorders, for bipolar disorder with psychotic features, and for severe behavioral disturbance in autism spectrum disorder. The metabolic side effects of SGAs are particularly prominent in children and adolescents, with more rapid weight gain and greater metabolic disruption than in adults, and metabolic monitoring is essential. Tardive dyskinesia is a particular concern with long-term antipsychotic use in young people.

79.3 Pharmacotherapy in Older Adults: Polypharmacy, Comorbidity, and Cognitive Sensitivity

The pharmacological management of psychiatric disorders in older adults is shaped by the specific pharmacokinetic and pharmacodynamic changes of aging. Reduced hepatic metabolism, reduced renal clearance, increased body fat relative to lean mass (affecting the distribution of lipid-soluble drugs), reduced plasma protein binding, and increased central nervous system sensitivity to psychotropic drugs all mean that older adults require lower doses of most medications and are more vulnerable to side effects. The clinical principle "start low, go slow, but reach the target" encapsulates the approach to psychotropic prescribing in older adults.

Polypharmacy is a particular problem in older adults with psychiatric disorders, who often have multiple comorbid physical health conditions for which they are receiving additional medications. The risk of drug interactions increases with the number of medications, and the cumulative anticholinergic burden of multiple medications (many of which have anticholinergic properties, including tricyclic antidepressants, bladder medications, antihistamines, and some antipsychotics) can produce clinically significant cognitive impairment, urinary retention, constipation, and confusion.

The treatment of depression in older adults in Bangladesh is particularly important given the substantial prevalence of depression in this age group, its frequent underdiagnosis (because its symptoms are confused with normal aging or with physical illness), and its serious consequences including functional decline, cognitive impairment, social withdrawal, and increased mortality. SSRIs are generally the preferred first-line antidepressants in older adults, with citalopram and escitalopram often preferred for their minimal drug interaction potential, though QTc monitoring is advisable given the dose-dependent QTc prolongation of these agents.

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The management of behavioral and psychological symptoms of dementia (BPSD), which include agitation, psychosis, depression, anxiety, sleep disturbances, and wandering, represents one of the most challenging areas of geriatric psychopharmacology. Antipsychotics, particularly SGAs, are frequently used for agitation and psychosis in dementia, but carry a black box warning from the FDA based on evidence of increased mortality (primarily cardiovascular and infectious) in older adults with dementia. This does not mean antipsychotics are never appropriate for BPSD, but they should be used at the lowest effective dose for the shortest necessary duration, after non-pharmacological approaches have been tried, and with careful risk-benefit discussion with the patient's family.

CHAPTER EIGHTY: RATIONAL PRESCRIBING IN BANGLADESH: CHALLENGES, CONTROVERSIES, AND PATHWAYS FORWARD

80.1 Polypharmacy in Psychiatric Practice: When Is More Less?

Polypharmacy - the concurrent use of multiple medications - is extremely common in psychiatric practice in Bangladesh, as in psychiatry globally. The drivers of polypharmacy include the presence of comorbid conditions (both psychiatric and physical) requiring multiple medications, the sequential addition of new medications for treatment-resistant symptoms without discontinuation of earlier agents that have had partial response, the prescription of medications to manage the side effects of other medications (such as anticholinergics for antipsychotic-induced EPS), patient expectations and demand for multiple treatments, and in some settings, the prescribing habits of individual clinicians or the influence of pharmaceutical marketing.

There are circumstances in which polypharmacy is genuinely rational and evidence-based. The combination of an antidepressant with a mood stabilizer in bipolar depression, the augmentation of an inadequate SSRI response with lithium or an atypical antipsychotic, the combination of clozapine with an SSRI for OCD in schizophrenia patients, and the use of multiple medications for comorbid conditions are all examples of evidenced-based multi-drug prescribing. The problem arises when polypharmacy is irrational: when multiple antipsychotics are prescribed together without evidence of additive benefit, when benzodiazepines are combined with antipsychotics and antidepressants without clear indication, or when medications accumulate over time through "prescribing inertia" without periodic review and rationalization.

Systematic medication review is an essential component of good psychiatric practice. At every follow-up appointment, the prescribing clinician should review all medications, assess each for its continued indication, monitor for side effects, check for interactions, and discontinue medications that are no longer needed or that are causing more harm than benefit. In the busy clinical environments of Bangladesh, with high patient volumes and brief consultation times, this systematic review is often neglected.

The phenomenon of "irrational polypharmacy with antipsychotics" deserves specific attention in Bangladesh. The prescription of two or more antipsychotics simultaneously is common in some clinical settings, despite the lack of evidence that this strategy produces better outcomes than

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optimal dosing of a single agent and the evidence that it substantially increases side effect burden. The reasons for this pattern include the failure to achieve adequate symptom control with the first antipsychotic (leading to addition of a second rather than adequate titration of the first), the prescribing of one antipsychotic by one clinician and another by a second clinician without knowledge of the first, and in some cases the influence of pharmaceutical industry relationships with prescribers.

80.2 Non-Adherence to Psychiatric Medications: Understanding and Addressing a Pervasive Problem

Non-adherence to psychiatric medications is among the most important practical problems in psychiatric care worldwide, and it is particularly prominent in Bangladesh. Rates of non-adherence to antipsychotic medications in schizophrenia, estimated at 40 to 75 percent in many studies, are a major driver of relapse, rehospitalization, and long-term deterioration. Non-adherence to mood stabilizers in bipolar disorder contributes to episode recurrence and to the increased mortality associated with this condition.

The causes of non-adherence in Bangladesh are multiple and overlapping. Side effects are a major driver: the extrapyramidal effects of antipsychotics, the sexual dysfunction of SSRIs, the weight gain of olanzapine, and the sedation of many psychotropic medications are often experienced as intolerable and lead to self-discontinuation. Cost is a significant barrier: even where generic medications are cheap in absolute terms, the cumulative cost of indefinite medication for a condition that may not produce obvious symptoms when well controlled can be difficult to justify for families under financial pressure. Stigma drives discontinuation: taking medication is a daily reminder of having a mental illness, and the desire to distance oneself from the patient identity motivates self-discontinuation when symptoms are under control. Lack of insight, particularly in schizophrenia and mania, means that the patient may not recognize themselves as being ill or in need of treatment. Poor medication literacy - inadequate understanding of why the medication is needed, how it works, what side effects to expect, and what to do about them - undermines the foundation of adherence. Family influences are important in Bangladesh, where family members may encourage discontinuation because they believe the patient is "cured," fear the side effects or stigma of medication, or cannot sustain the cost.

Addressing non-adherence requires a comprehensive, individualized approach. Therapeutic alliance - the quality of the relationship between the clinician and the patient - is the most important foundation of adherence. Patients who feel respected, heard, and actively involved in their treatment decisions are more likely to adhere to agreed treatment plans. Psychoeducation for patients and families, providing information about the nature of the condition, the rationale for long-term treatment, the expected effects and side effects of medication, and what to do when problems arise, significantly improves adherence. Side effect management, including switching to better-tolerated medications when side effects are intolerable, represents the most modifiable clinical factor in adherence. Long-acting injectable antipsychotics, which eliminate the need for daily oral dosing and provide reliable medication delivery, are a highly effective strategy for patients with persistent non-adherence, though they require clinical infrastructure (injection facilities, trained staff) and patient acceptance.

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80.3 The Pharmaceutical Industry and Psychiatric Prescribing: A Critical Examination

The relationship between the pharmaceutical industry and psychiatric prescribing is a subject of profound ethical importance and continuing controversy. The pharmaceutical industry has played a genuinely important role in the development of effective psychiatric medications, investing the enormous resources required for drug development, clinical trials, and regulatory approval. Without this investment, the pharmacological armamentarium of modern psychiatry would be far more limited. At the same time, the industry's primary obligation to its shareholders, rather than to patients, creates incentives that do not always align with the goals of rational prescribing and optimal patient care.

The most significant problem in the relationship between pharmaceutical companies and psychiatric prescribers is the influence of marketing on prescribing behavior. Pharmaceutical representatives visit clinicians, provide samples, sponsor educational events, and in some settings offer gifts and financial incentives, all with the goal of influencing prescribing toward the company's products. The evidence that these marketing activities influence prescribing, even when clinicians sincerely believe they are immune to such influence, is robust and somewhat disturbing.

In Bangladesh, pharmaceutical company influence on psychiatric prescribing is widespread. Sponsored "educational" events, free samples, and various forms of non-cash compensation from pharmaceutical representatives are common, and the regulatory framework governing pharmaceutical promotion is weak and poorly enforced. The Bangladesh Medical and Dental Council has professional codes of conduct that prohibit the acceptance of gifts from pharmaceutical companies by physicians, but compliance is variable and enforcement is limited.

Several specific manifestations of industry influence are particularly relevant in psychiatric prescribing. The marketing of second-generation antipsychotics as transformatively superior to first-generation agents, without adequate acknowledgment of their metabolic risks, contributed to their widespread adoption despite their higher cost and in many cases equivalent efficacy. The marketing of antidepressants as effective for mild depression, where the evidence is weaker than for moderate-to-severe depression, may have contributed to unnecessary prescribing. The development and promotion of new psychiatric diagnoses to expand the market for existing medications (sometimes called "disease mongering") has been documented in the psychiatric literature.

The appropriate response to these problems is not to abandon the pharmacological treatment of psychiatric disorders, but to implement robust mechanisms for protecting prescribing decisions from commercial influence: mandating disclosure of financial relationships between prescribers and pharmaceutical companies, promoting independent, non-commercially funded prescribing education, developing prescribing guidelines based on systematic evidence reviews rather than on commercial presentations, and strengthening the regulatory framework governing pharmaceutical promotion in Bangladesh.

80.4 Herbal and Traditional Medicines in Psychiatric Practice: Evidence, Risks, and Integration

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A substantial proportion of Bangladeshis use herbal and traditional medicines for psychiatric symptoms, often concurrently with prescribed psychotropics without informing their physicians. This practice is common, understandable, and potentially clinically significant.

Several herbal preparations have genuine pharmacological activity relevant to psychiatric conditions. St. John's Wort (Hypericum perforatum), widely used in Europe for mild to moderate depression, has demonstrated efficacy superior to placebo in several randomized controlled trials, with an effect size comparable to standard antidepressants for mild to moderate depression. Its clinical relevance in Bangladesh is limited by its unavailability in local markets, but it illustrates the principle that herbal preparations can have genuine pharmacological activity.

More relevant to the Bangladesh context are several preparations with a history of use in Ayurvedic and Unani medicine. Ashwagandha (Withania somnifera) has been shown in randomized controlled trials to reduce anxiety and stress markers, with emerging evidence of antidepressant activity. Brahmi (Bacopa monnieri) has evidence for cognitive enhancement. Rauwolfia serpentina, from which the antihypertensive and early antipsychotic drug reserpine was derived, has been used in Ayurvedic medicine for psychiatric conditions for centuries, though its clinical use is complicated by reserpine's side effects including depression.

The most important clinical concern about concurrent use of herbal medicines and prescribed psychotropics is pharmacokinetic drug interactions. St. John's Wort is a potent inducer of CYP3A4 and P-glycoprotein, substantially reducing the plasma levels of many medications including some antidepressants, antiretrovirals, and anticoagulants. Clinicians in Bangladesh should routinely ask about herbal medicine use at every consultation and be aware of the potential for interactions.

The integration of traditional medicine approaches with biomedical psychiatric care, in ways that respect cultural traditions while maintaining evidence standards, is an important aspiration for Bangladeshi psychiatry. Collaborative models in which traditional healers and biomedical practitioners refer to each other, communicate about shared patients, and learn from each other's frameworks, have been piloted in several South Asian and African countries with promising results. Developing such models in Bangladesh requires goodwill, mutual respect, and institutional support from health authorities.

CHAPTER EIGHTY-ONE: CONTROVERSIES IN CONTEMPORARY PSYCHOPHARMACOLOGY

81.1 The Overmedication Debate: Are We Prescribing Too Much?

The question of whether psychiatry overprescribes is one of the most contested and consequential debates in contemporary mental health discourse. It encompasses several distinct but related concerns: whether psychiatric diagnoses are too broadly drawn (leading to treatment of conditions that might resolve without intervention), whether pharmacological treatment is

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prescribed too readily without adequate consideration of psychological and social alternatives, whether medications are continued for too long, and whether the balance between benefits and side effects is adequately communicated to patients.

The antidepressant prescribing controversy is the most prominent example. In the United Kingdom, antidepressant prescriptions increased by over 150 percent between 2000 and 2020, with over 21 million prescriptions dispensed in 2022. Similar trends have been documented in other high-income countries. This increase has been attributed to multiple factors: increasing recognition and diagnosis of depression and anxiety (partly genuine improvement in mental health literacy, partly broadening of diagnostic thresholds), the publication of prescribing guidelines that endorsed antidepressants as first-line treatments for mild to moderate depression (where the evidence for efficacy is weaker), the marketing of new antidepressant agents, the shortage of psychotherapy in public health systems (making medication a default treatment when counseling is unavailable), and the emergence of a culture in which psychological distress is increasingly medicated rather than otherwise managed.

The critics of this trend, including Joanna Moncrieff, whose work on the "myth of the chemical cure" has been controversial and influential, argue that antidepressants are overused and that their long-term effects on the brain, including the potential for long-term receptor adaptations that make discontinuation difficult and that may alter emotional responsiveness, have not been adequately studied. Peter Gotzsche, a prominent critic of psychopharmacology, has argued that the harms of antidepressants and other psychiatric medications substantially exceed their benefits for most patients.

The defenders of antidepressant prescribing, including many leading psychiatric researchers and clinicians, argue that the evidence for efficacy in clinically significant depression is robust, that the alternative of untreated depression is genuinely harmful, and that the critics selectively emphasize negative findings while minimizing the large body of positive evidence. They note that the treatment gap in Bangladesh and other low-income countries, where the vast majority of people with depression receive no treatment, is a far more pressing problem than overmedication.

This debate is not easily resolved because it involves both empirical questions (about the efficacy and safety of antidepressants in specific populations, for specific durations, in specific conditions) and value questions (about the appropriate threshold for treating psychological distress pharmacologically, about the balance between individual autonomy and paternalistic protection from overtreatment, and about the social meaning of medicalizing suffering). What the debate should produce, at minimum, is a more thoughtful and individualized approach to antidepressant prescribing, one that involves shared decision-making with patients, clear explanation of the evidence base, explicit discussion of non-pharmacological alternatives, and regular review of whether continued medication is warranted.

81.2 Long-Term Antipsychotic Use: Protection or Harm?

A particularly sharp controversy has emerged in recent years around the long-term use of antipsychotics in schizophrenia. The standard clinical recommendation has been that patients

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with schizophrenia should take antipsychotic medication indefinitely, given the high risk of relapse after discontinuation. This recommendation is supported by strong evidence from randomized controlled trials showing that discontinuing antipsychotics substantially increases the risk of psychotic relapse in the first year after discontinuation.

However, several long-term follow-up studies have raised questions about whether long-term antipsychotic treatment may have adverse effects on outcomes over decades. Wunderink and colleagues in the Netherlands conducted a study in which patients who had achieved remission after a first episode of psychosis were randomized to dose reduction and targeted use of antipsychotics (given only when symptoms re-emerged) versus continued maintenance dosing. At seven-year follow-up, the dose-reduction group had higher rates of psychotic relapse in the earlier years but substantially better functional recovery at seven years, suggesting that the functional impairment associated with long-term antipsychotic exposure may outweigh the protective effect against relapse for some patients.

This finding has generated significant debate. Critics point out that the trial was not adequately powered, that the dose-reduction group still received antipsychotics when needed, and that the functional advantage at seven years was observed in a selected group of patients with good outcomes and may not generalize to the more severely ill. Defenders argue that the finding is clinically plausible, given the known effects of long-term dopamine blockade on motivation, pleasure, and cognitive function (the "dopamine supersensitivity" hypothesis of tardive dyskinesia and related phenomena), and that the standard recommendation of lifelong antipsychotic treatment for all patients may need to be individualized more carefully.

In Bangladesh, the practical implications of this debate are shaped by context. For patients with severe, recurrent psychotic illness, the evidence strongly supports long-term maintenance treatment. For patients with a first episode of psychosis who achieve full remission and who have strong support systems, a trial of dose reduction with close monitoring may be appropriate in some cases. What is not appropriate, however, is the undiscussed discontinuation of antipsychotics by patients or families without medical guidance, which is the far more common scenario in Bangladesh and which is associated with a high risk of relapse and the cumulative harm of repeated episodes.

81.3 Diagnostic Inflation, Medicalization, and the Sociology of Psychiatric Diagnosis

The concept of diagnostic inflation refers to the progressive expansion of the category of psychiatric disorder to include conditions and presentations that would not previously have been considered to require a psychiatric diagnosis. This expansion occurs through multiple mechanisms: lowering the symptom thresholds required for a diagnosis, adding new diagnostic categories, removing exclusion criteria that previously prevented diagnosis in the presence of normal grief or life circumstances, and applying diagnostic criteria in clinical contexts (primary care, schools, corporate wellness programs) where the prevalence of genuine disorder may be lower than in the specialized settings where the criteria were developed.

The sociological analysis of psychiatric diagnosis, developed by scholars like Peter Conrad (in his work on the medicalization of deviance) and by the critical psychiatry movement more

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broadly, argues that the expansion of psychiatric diagnosis reflects social and economic forces, including the interests of the pharmaceutical industry, the aspirations of the psychiatric profession, and the cultural tendency to medicalize normal human variation, as much as it reflects genuine advances in understanding of mental illness.

In the Bangladesh context, the diagnostic inflation debate has a somewhat different valence than in high-income countries. In a country where the treatment gap is massive and the vast majority of people with genuine psychiatric disorders go undiagnosed and untreated, the concern about overdiagnosis is less pressing than the concern about underdiagnosis. The clinical challenge in Bangladesh is not primarily to prevent the overdiagnosis of depression in people experiencing ordinary sadness, but to reach the hundreds of thousands of Bangladeshis with genuine, disabling depressive disorders who currently receive no diagnosis and no treatment.

That said, the diagnostic inflation concern is not irrelevant in Bangladesh. The tendency of pharmaceutical marketing to promote broad diagnostic categories that maximize the market for their products is active in Bangladesh as elsewhere. The risk that general practitioners, with limited mental health training, may apply diagnostic labels and prescribe psychotropics for presentations that do not meet clinical threshold is real. And the adoption of Western diagnostic frameworks that may not adequately capture the specific character of psychological distress as it is experienced and expressed in Bangladesh represents an ongoing challenge for the field.

81.4 The Antipsychotic Debate in Dementia and Cognitive Disorders

The use of antipsychotics for the behavioral and psychological symptoms of dementia (BPSD), as noted in Chapter 79, is an area of particular clinical and ethical controversy. The evidence that antipsychotics increase mortality in elderly people with dementia is robust, and the magnitude of this increased risk (approximately 60 to 70 percent increase in mortality compared to placebo in the short term) is clinically significant. The regulatory authorities in the US and UK have required black box warnings about this risk on all antipsychotic medications, and guidelines uniformly recommend that non-pharmacological approaches be tried first and that antipsychotics be reserved for severe BPSD that has not responded to other management.

In practice, however, antipsychotics remain widely prescribed for BPSD in many clinical settings, driven by the limited availability and time-intensiveness of non-pharmacological alternatives, the genuine suffering and safety risks of severe agitation and psychosis in dementia, and the institutional pressures in nursing home and hospital settings to manage behavioral disturbance quickly.

In Bangladesh, where the formal care system for dementia is almost entirely absent and where the burden falls entirely on families, the prescribing of antipsychotics for BPSD occurs primarily in the context of family members bringing an agitated or psychotic dementia patient to a general physician or psychiatrist seeking relief from the burden of managing difficult behavior. The challenge is to provide families with effective strategies for non-pharmacological management of BPSD, including structured routines, meaningful activities, sensory approaches, and person-centered care, while using pharmacological treatment judiciously and with adequate informed consent about risks.

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CHAPTER EIGHTY-TWO: COMPREHENSIVE CASE STUDIES FOR PART FIFTEEN

The following case studies are fictionalized composites designed to illustrate the complex clinical reasoning required in psychiatric pharmacotherapy in the Bangladesh context.

Case Study 82.1: Treatment-Resistant Depression and the Question of ECT

Nasreen is a 48-year-old schoolteacher from a town in Comilla district who has had three previous episodes of major depression, all managed with antidepressants. Her current episode, which began eight months ago following the death of her husband, has been characterized by profound sadness, anhedonia, inability to work, social withdrawal, marked weight loss (she has lost approximately 8 kg), severe early morning awakening, and persistent passive thoughts of death without active suicidal plan. She describes feeling that life is completely meaningless and that she will never recover.

She was initially treated with escitalopram 10 mg, increased to 20 mg after four weeks without adequate response, for a total of ten weeks. There was minimal improvement. She was then switched to venlafaxine, titrated to 225 mg, with six weeks at the full dose: again minimal response. A psychiatrist at the divisional hospital augmented with mirtazapine 15 mg at night: partial response, with some improvement in sleep, but persistent core depressive symptoms. Lithium augmentation was discussed but the patient's family was concerned about the need for regular blood tests, which would require repeated travel to the divisional hospital.

At this point, the treating psychiatrist referred Nasreen to NIMH in Dhaka for assessment and consideration of ECT. The NIMH team assessed her as having severe, treatment-resistant depression with melancholic and some endogenous features, and considered her a strong candidate for ECT. The consent process involved two full consultations with Nasreen and her adult son: both were provided with information about modern ECT, its evidence base, its side effects (particularly the memory effects), and its alternatives. Nasreen was initially reluctant, having heard frightening accounts of ECT from neighbors. After viewing educational materials including a video showing the modern procedure, and after speaking with another patient who had benefited from ECT, she agreed to proceed.

She received a course of 10 ECT treatments (right unilateral ultra-brief pulse), with assessment between sessions showing progressive improvement from the fourth treatment onward. By the tenth treatment, she achieved near-full remission. The primary side effect was confusion and headache in the hours after each session, and she noted some difficulty recalling events from the two months prior to treatment, which distressed her but was substantially better by six weeks after the final treatment.

She was maintained on venlafaxine 150 mg as continuation treatment, with monthly follow-up at NIMH for six months and then quarterly review. She returned to work at six months post-treatment and remained well at two-year follow-up.

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This case illustrates the appropriate use of ECT for severe treatment-resistant depression after adequate pharmacological trials, the importance of thorough and respectful consent processes, the value of addressing patient fears with information and peer experience, and the potential for excellent outcomes with appropriate biological treatment.

Case Study 82.2: Bipolar Disorder, Pregnancy, and the Valproate Dilemma

Ruma is a 26-year-old woman with bipolar I disorder, diagnosed four years ago after a first episode of psychotic mania requiring hospitalization. She has been managed on sodium valproate 1000 mg daily, achieving good mood stability for the past two and a half years. She is married and has recently discovered she is 6 weeks pregnant, her first pregnancy, very much wanted by her and her husband.

The treating psychiatrist is aware of the teratogenic risk of valproate and must discuss this with Ruma. The consultation is lengthy and requires sensitivity. The psychiatrist explains that valproate significantly increases the risk of certain birth defects (neural tube defects, cardiac abnormalities) and of neurodevelopmental problems in the child. Ruma is understandably distressed and asks why this was not discussed before she became pregnant. The psychiatrist acknowledges this gap in previous counseling.

Options are discussed in detail. First, gradual discontinuation of valproate and initiation of an alternative: lamotrigine is considered, but the psychiatrist is concerned that the slow titration required may leave Ruma inadequately protected against manic relapse during the high-risk peripartum period. Lithium is discussed: the cardiac risk in the first trimester is lower than historically believed, and lithium is a viable option for the second and third trimesters. Quetiapine, which has a relatively favorable safety profile in pregnancy among antipsychotics, is another possibility for acute management. Second, continuation of valproate with folic acid supplementation (to reduce the neural tube defect risk, though not entirely eliminate it), level 2 ultrasound at 18 to 20 weeks to assess for structural abnormalities, and detailed counseling about the neurodevelopmental risks.

After extensive discussion involving Ruma, her husband, and the psychiatrist, a decision is made to gradually taper valproate and initiate quetiapine extended-release, with close psychiatric monitoring throughout the pregnancy. She is referred to a high-risk obstetrics service for integrated perinatal care. She is provided with detailed written information about the signs of manic relapse and with a clear plan for what to do if symptoms emerge.

The pregnancy proceeds to full term. The baby is born healthy. In the postpartum period, Ruma develops a hypomanic episode in the third week after delivery, consistent with the known high risk of mood episodes in the postpartum period for women with bipolar disorder. She is managed with increased quetiapine dose and close monitoring, achieving stability without hospitalization, and eventually transitions back to lithium for long-term maintenance after breastfeeding is completed.

This case illustrates the complexity of managing bipolar disorder through pregnancy, the specific and serious concerns about valproate, the importance of preconception counseling

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(which failed in this case and contributed to an avoidable dilemma), the need for individualized treatment decisions, and the importance of integrated perinatal mental health care.

Case Study 82.3: Yaba Dependence, Methamphetamine-Induced Psychosis, and the Limits of Pharmacotherapy

Rafiq is a 22-year-old unmarried man from a working-class family in Chattogram who was brought to the emergency department by his parents after developing acute paranoid psychosis. His parents report that he has been using yaba for approximately two years, initially with friends at social events and gradually escalating to daily use. Over the past month, his behavior has become increasingly bizarre: he believes his neighbors are monitoring him through hidden cameras, he has been communicating with an apparent divine messenger, and he has not slept for three consecutive nights before the presentation.

Urine toxicology is positive for methamphetamine. His mental state examination reveals prominent paranoid delusions, auditory hallucinations (voices he interprets as divine), severe sleep deprivation, significant psychomotor agitation, and elevated heart rate and blood pressure consistent with stimulant intoxication.

He is admitted to the psychiatry ward and managed acutely with oral haloperidol and diazepam for agitation, with careful cardiovascular monitoring. Over the following 72 hours, his psychotic symptoms improve substantially, and he achieves sleep. By one week, his delusions have resolved and he is able to engage in an interview without evidence of active psychosis.

The question of diagnosis is important: is this methamphetamine-induced psychosis (which would resolve with abstinence) or an underlying primary psychotic disorder precipitated or unmasked by methamphetamine use? His family history reveals that his paternal uncle has schizophrenia. The clinical assessment, combined with the rapid resolution of psychotic symptoms with brief antipsychotic treatment and abstinence, suggests methamphetamine-induced psychosis rather than primary schizophrenia, but the positive family history and the pattern of use indicate elevated risk for developing a primary psychotic disorder.

The antipsychotic is gradually tapered and discontinued at three weeks, with close monitoring for symptom recurrence. Rafiq is discharged to an outpatient follow-up program with engagement in a structured peer-support group for young men with methamphetamine use problems, the only community-based program of this kind in Chattogram, operated by a local NGO with limited resources.

At three-month follow-up, Rafiq has not returned to yaba use and has not experienced psychotic relapse, but he reports profound boredom, anhedonia, and low motivation, consistent with the motivational and hedonic impairments of post-stimulant use in recovery. He is started on bupropion, which has some evidence for improving these symptoms and for reducing methamphetamine craving. At six months, he has obtained employment in a garment quality control role and is attending the peer support group regularly.

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This case illustrates several important points: the dramatic presentation of methamphetamine-induced psychosis, the distinction between substance-induced and primary psychosis, the limited pharmacological options for methamphetamine use disorder, the critical role of community-based psychosocial support, and the positive potential for recovery with sustained engagement.

Case Study 82.4: Clozapine in Treatment-Resistant Schizophrenia: Navigating Monitoring in a Resource-Limited Context

Karim is a 32-year-old man who has had schizophrenia for nine years. He had a good response to haloperidol in his first two episodes but has had persistent positive symptoms (auditory hallucinations and paranoid delusions) despite adequate trials of haloperidol (at therapeutic doses for twelve weeks), risperidone (at 6 mg daily for sixteen weeks with therapeutic drug monitoring confirming adequate plasma levels), and aripiprazole (at 30 mg daily for fourteen weeks). He meets the criteria for treatment-resistant schizophrenia.

The treating psychiatrist at NIMH discusses the option of clozapine with Karim and his family. The conversation covers clozapine's unique efficacy in treatment-resistant schizophrenia, the 1 to 2 percent risk of agranulocytosis requiring mandatory blood monitoring, the metabolic side effects (weight gain, diabetes risk), the requirement for weekly blood counts for the first six months and then fortnightly for six months and then monthly thereafter, and the practical implications of this monitoring schedule.

Karim and his family express concern about the blood monitoring: they live in a district approximately 180 km from Dhaka, making weekly visits to the NIMH hematology laboratory impractical and expensive. The treating team explores options. A local private laboratory in their district can perform the required full blood count. The team arranges with the laboratory to fax or email results directly to NIMH, with a protocol for Karim to be contacted if the laboratory result requires urgent action. A community health worker connected to the NIMH network is identified who can facilitate sample collection and result communication.

Clozapine is initiated at 12.5 mg and slowly titrated over eight weeks to a therapeutic dose of 350 mg (with plasma level monitoring showing a level of 420 ng/mL, within the therapeutic range of 350 to 600 ng/mL). Blood monitoring through the district laboratory is established and functions reliably. Over the first three months, Karim's persistent hallucinations reduce by approximately 70 percent on standardized rating, and his delusional beliefs lose their conviction. He begins to re-engage with family activities and his functional capacity improves substantially.

The metabolic monitoring reveals significant weight gain (8 kg over four months) and a borderline elevation of fasting glucose. Dietary counseling is provided and metformin 500 mg twice daily is started, with good effect on the glucose level. Regular weight monitoring continues.

At two-year follow-up, Karim continues on clozapine with stable and improved mental state. No agranulocytosis has occurred. His quality of life and functional status are substantially better than at any point in the previous nine years.

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This case illustrates the clinical importance of clozapine for treatment-resistant schizophrenia, the practical challenge of implementing the required blood monitoring in a resource-limited, geographically dispersed context, the feasibility of creative solutions to monitoring challenges, and the genuine and substantial clinical benefit that clozapine can provide.

Case Study 82.5: The Complexity of Medication in Old Age

Dilruba is a 72-year-old widow who was brought to the geriatric medicine outpatient clinic by her son with a complaint of "memory problems." Assessment reveals moderate Alzheimer's disease (confirmed by clinical assessment and cognitive testing showing MMSE 18/30), with behavioral symptoms including nighttime agitation, wandering, and occasional verbal aggression toward her caregiving daughter-in-law.

Her medication list, compiled after consultation with multiple physicians, includes: amlodipine for hypertension, metformin for type 2 diabetes, rosuvastatin for dyslipidemia, omeprazole for GERD, diazepam 10 mg at night prescribed by her GP for sleep, haloperidol 5 mg twice daily prescribed by a private psychiatrist for behavioral disturbance, and trihexyphenidyl 2 mg three times daily prescribed to manage the EPS produced by the haloperidol. She is also taking aspirin and was found by her daughter-in-law to be using an OTC antihistamine (diphenhydramine) for itching.

The medication review reveals a potentially dangerous situation. The cumulative anticholinergic burden of this regimen (diazepam, haloperidol at moderate dose, trihexyphenidyl, and diphenhydramine) is extremely high and is likely contributing to her cognitive impairment, to her nighttime agitation (paradoxical anticholinergic excitement), and possibly to her urinary frequency. The benzodiazepine is a fall risk. Haloperidol at this dose in a 72-year-old with Alzheimer's disease is associated with an increased risk of adverse outcomes including stroke and death.

The management plan involves gradual discontinuation of diazepam (slow taper over eight weeks), substitution of low-dose quetiapine (25 to 50 mg at night) for haloperidol (quetiapine has much less EPS and less anticholinergic effect than haloperidol at these doses, with evidence for managing BPSD), discontinuation of trihexyphenidyl (no longer needed once haloperidol is discontinued), cessation of the OTC diphenhydramine, and initiation of donepezil (a cholinesterase inhibitor with evidence for modest improvement in cognitive and behavioral symptoms in mild to moderate Alzheimer's disease).

The family is provided with intensive caregiver support and education about behavioral management of dementia, including structured daily routine, meaningful activities adapted to her current abilities, effective communication strategies, and environmental modifications to reduce nighttime wandering.

At six-week review, Dilruba's nighttime disturbance has reduced substantially, her daytime alertness has improved, and her daughter-in-law reports the behavioral management strategies are helpful. The Folstein MMSE score at three months is unchanged at 18, as expected (cholinesterase inhibitors stabilize rather than substantially improve cognition). The family is

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counseled about the progressive nature of Alzheimer's disease and provided with information about support resources.

CHAPTER EIGHTY-THREE: PHILOSOPHICAL AND THEORETICAL COMMENTARY ON PSYCHOPHARMACOLOGY

83.1 The Metaphysics of Medication: What Does It Mean to Treat the Mind with a Drug?

The pharmacological treatment of psychiatric disorders raises profound philosophical questions about the nature of the self, the relationship between brain chemistry and experience, and the meaning of authenticity and freedom in human life. These questions are not merely academic; they are experienced by patients who take psychotropic medications and they shape the clinical relationship.

The philosopher Derek Parfit's work on personal identity raises the question of whether pharmacological treatment that substantially alters mood, cognition, or personality changes the identity of the person who takes it. A patient with severe depression who takes antidepressants and experiences a profound lift in mood may describe feeling "more like myself than I have in years," suggesting that the medication has restored rather than altered identity. Another patient may feel that the medication has flattened their personality and made them into a different person. These responses are not mutually exclusive at the population level, and they underscore the importance of the patient's own experience as the ultimate criterion for assessing the value of pharmacological treatment.

The concept of "authenticity" in relation to pharmacological treatment is particularly contested. Critics of psychopharmacology sometimes argue that medication-induced changes in mood and cognition are inauthentic because they are chemically rather than experientially achieved. This argument presupposes a sharp distinction between "real" psychological change (achieved through insight, experience, and effort) and "artificial" change (achieved through pharmacological means). This distinction is philosophically questionable: there is no reason to think that the brain changes that accompany effective psychotherapy are more "real" or "natural" than those that accompany antidepressant treatment, since both involve changes in neural circuits and neurotransmitter function. What makes psychological change valuable, on most plausible philosophical accounts, is not its mechanism but its integration into the person's life, values, and relationships.

The philosopher Carl Elliott has argued that the use of "mood-brightening" medications by people who do not have a clinical disorder raises different and more troubling questions about authenticity: if a non-depressed person takes an SSRI and finds it enhances their sense of well-being and social confidence, is this a form of self-improvement or a form of self-alienation from authentic experience? This question becomes more pressing as access to psychiatric medications outside the formal prescription system increases. In Bangladesh, where benzodiazepines are widely obtained from pharmacies without prescription and where various "tonics" with

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psychoactive ingredients are marketed as general health preparations, the boundaries between medical treatment and non-therapeutic use of psychoactive substances are already blurred.

83.2 Agency, Responsibility, and the Attribution of Behavior to Brain Chemistry

One of the philosophically and clinically important consequences of the biologization of psychiatric disorders is its implications for how we understand moral responsibility and agency. If a person's violent behavior, self-harming actions, or irresponsible decisions are caused by a "chemical imbalance" or a "brain disorder," to what extent are they morally responsible for those behaviors? The philosopher John Martin Fischer's account of moral responsibility focuses on "reasons-responsiveness": a person is morally responsible for an action if they would have responded to reasons not to perform it had such reasons been available and recognizable to them. On this account, severe psychotic illness, which impairs the capacity to recognize and respond to reasons, does indeed diminish or eliminate moral responsibility for actions performed in that state. But mild to moderate depression, which impairs motivation and concentration while leaving the capacity for reasoning intact, does not eliminate responsibility in the same way.

The biologization of mental illness can have important positive consequences for how patients are treated: reducing shame and self-blame, increasing compassion from families and communities, and supporting access to treatment. But it can also have negative consequences if it leads to a passive, deterministic stance in which patients see themselves as mere victims of their brain chemistry rather than as agents capable of change. The most therapeutically empowering and philosophically sound approach acknowledges both the biological contributions to psychiatric disorders and the patient's agency, resilience, and potential for recovery.

83.3 Justice, Access, and the Global Psychopharmacology Divide

The extraordinary divide in access to psychiatric medications between high-income and low-income countries is a profound issue of global health equity. In high-income countries, a patient with schizophrenia has access to a range of antipsychotic medications including depot preparations, specialized monitoring services, and complementary psychosocial treatments. The same patient in Bangladesh may receive haloperidol at an adequate dose if they are fortunate enough to reach a psychiatrist, and may have no access to any psychosocial treatment. A patient with treatment-resistant depression in the United States or Europe may be offered esketamine, ECT, or TMS. The equivalent patient in Bangladesh may have no access to ECT and virtually no access to the newer treatments.

This divide is not natural or inevitable. It reflects choices, made by governments, international organizations, pharmaceutical companies, and the global health community, about how to distribute the enormous resources of modern medicine. The integration of essential psychiatric medications into universal health coverage packages, the promotion of voluntary licensing arrangements to make new psychiatric medications available in generic form in low-income countries at accessible prices, the investment in the research and development of treatments specifically suited to low-resource settings, and the development of task-sharing approaches that extend the reach of effective interventions, are all concrete policy responses to this injustice.

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The global mental health movement's advocacy for "no health without mental health" and for the inclusion of mental health in universal health coverage has made important progress in articulating the case for equity in psychiatric care. The inclusion of key psychiatric medications on the WHO Essential Medicines List, the development of the mhGAP guidelines, and the Sustainable Development Goal targets related to mental health all reflect a growing international consensus that the psychopharmacology divide is unjust and must be addressed. Translating this consensus into concrete changes in access in Bangladesh and other low-income countries remains the central challenge for the next decade.

CHAPTER EIGHTY-FOUR: SUMMARY AND CONNECTIONS TO PART SIXTEEN

Part Fifteen has examined the evidence base, mechanisms, clinical application, and controversies of psychopharmacological and biological treatments in psychiatry, with consistent attention to the Bangladesh context. The central findings and themes of this Part may be summarized as follows.

Psychopharmacology has produced genuinely effective treatments for major psychiatric conditions, including antidepressants for depression and anxiety disorders, antipsychotics for schizophrenia and other psychotic disorders, mood stabilizers for bipolar disorder, and medications for substance use disorders. These treatments reduce suffering, prevent relapse, save lives, and support recovery. Their importance for clinical practice in Bangladesh is not in question.

At the same time, the field of psychopharmacology has not delivered the transformative advances in outcomes that were promised by the biological revolution of the late twentieth century. Treatment-resistant conditions remain extremely common. Side effects of many medications are serious and inadequately managed. The mechanisms of action of most psychiatric medications are incompletely understood. The evidence base, while extensive, is substantially generated in high-income country populations and may not fully apply to Bangladeshi populations with different genetic backgrounds, nutritional status, comorbidity profiles, and cultural frameworks.

The history of psychopharmacology is marked by both genuine achievements and significant ethical failures, including inadequate disclosure of risks by pharmaceutical companies, the inappropriate promotion of medications for conditions without adequate evidence, the overuse of sedating medications for convenience rather than therapeutic benefit, and the inequitable global distribution of access to effective treatments.

Rational prescribing in Bangladesh requires awareness of the available medications and their evidence base, attention to pharmacokinetic factors relevant to Bangladeshi populations, monitoring for side effects particularly those most common with first-generation antipsychotics widely used in Bangladesh, management of polypharmacy and irrational prescribing practices, support for medication adherence through therapeutic alliance and psychoeducation, and resistance to inappropriate pharmaceutical industry influence.

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The emerging fields of precision psychiatry and pharmacogenomics offer the potential for more individualized and effective pharmacological treatment, though their practical implementation in Bangladesh faces significant resource and infrastructure challenges. The most immediate priorities for improving pharmacological treatment in Bangladesh are improving the rational use of existing medications, expanding access to essential psychiatric medications including mood stabilizers and second-generation antipsychotics, developing adequate monitoring systems for clozapine and lithium, training prescribers in mhGAP-based rational prescribing for common mental disorders, and advocating for improved access to medications for opioid use disorder as a specific and urgent public health priority.

ECT, when properly administered with modern techniques, is an effective and appropriate treatment for severe and treatment-resistant depression, catatonia, and other specified conditions, and expanding access to properly administered ECT in Bangladesh is a clinical priority. Newer neuromodulation approaches including TMS have potential for specific roles in treatment-resistant conditions, though practical access in Bangladesh is currently very limited.

The philosophical questions raised by psychopharmacology, about the nature of authenticity, the implications of the biological model for moral responsibility and agency, and the justice of global access inequities, deserve sustained engagement by the psychiatric community in Bangladesh. A mature and ethically reflective psychiatry is one that deploys the tools of psychopharmacology with both competence and humility, in the service of patients whose suffering is real and whose dignity is paramount.

Part Sixteen, which follows, will address the major psychological and psychosocial treatments in psychiatry: cognitive-behavioral therapy and its adaptations, psychodynamic approaches, family therapy, interpersonal therapy, mindfulness-based interventions, and the emerging field of digital and technology-assisted psychological therapies. The relationship between psychological and pharmacological treatments, the evidence for their combined use, and the specific challenges of delivering evidence-based psychological therapies in the Bangladesh context will be the focus. As this Part has argued, the most effective psychiatric care integrates biological and psychological approaches in a framework that is responsive to the individual patient's needs, values, and circumstances, and this integration is the aspiration that animates both this Part and the next.

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Part Fifteen concludes here. Part Sixteen: Psychological Therapies, Psychosocial Interventions, and the Integration of Biological and Psychological Approaches in Bangladesh, follows.

PART SIXTEEN: PSYCHOLOGICAL THERAPIES, PSYCHOSOCIAL INTERVENTIONS, AND THE INTEGRATION OF BIOLOGICAL AND PSYCHOLOGICAL APPROACHES IN BANGLADESH

CHAPTER EIGHTY-FIVE: THE HISTORY AND PHILOSOPHY OF PSYCHOTHERAPY - FROM THE ANCIENT COUCH TO THE MODERN CLINIC

85.1 Introduction: What Is Psychotherapy and Why Does It Exist?

There is something deceptively simple about the idea that one person speaking to another can produce healing. The therapist offers no pill, no injection, no surgical incision. The instruments of the trade are words, silence, attention, and the quality of presence that one human being brings to another. And yet, across a century of increasingly rigorous scientific investigation, it has been established beyond reasonable dispute that psychotherapy works: that structured, theoretically grounded, relationally delivered psychological intervention can reduce suffering, alter the course of mental illness, reshape the architecture of the brain, and change lives in ways that are durable, meaningful, and sometimes nothing short of extraordinary.

The question of why psychotherapy works is considerably more difficult than the question of whether it works. The history of psychotherapy is also, in many respects, a history of competing answers to this question. Is it the specific techniques, the carefully structured cognitive restructuring exercises, the systematic desensitization protocols, the interpretations of unconscious material? Or is it something more fundamental, more relational: the quality of the therapeutic alliance, the experience of being truly heard by another person, the restoration of hope in the context of an honest and compassionate relationship? Or is it the creation of a protected space in which something that has never been spoken can at last be articulated, and in articulation, loses some of its power? Or is it all of these simultaneously, operating through different mechanisms in different people and different conditions?

These are not merely academic questions. They bear directly on how psychotherapy is trained, delivered, evaluated, and resourced, and on how it can be adapted for contexts, like Bangladesh, that differ profoundly from the Western settings in which most contemporary psychotherapy was developed. A therapy that works primarily through specific techniques can, in principle, be manualized and taught to briefly trained non-specialists. A therapy that works primarily through the quality of a long-term therapeutic relationship requires different conditions and different training. A therapy that is deeply embedded in Western cultural assumptions about the individual, about self-disclosure, about the expression of emotion, and about the value of psychological introspection may require fundamental reconceptualization before it can be applied in a society organized around very different cultural premises.

This chapter traces the history of psychotherapy from its ancient precursors through its scientific development in the twentieth century and its current condition as a diverse, contested, and

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enormously consequential field of practice and research. It examines the philosophical foundations that give psychotherapy its character and its limits. And it situates this history and philosophy within the specific context of Bangladesh, asking what psychotherapy means, what it can offer, and what it must become in order to serve the mental health needs of the Bangladeshi people.

85.2 Healing Through Relationship: Ancient Precedents

The idea that healing can occur through human relationship and through the spoken word is not a modern invention. It is, in important ways, among the oldest medical ideas in human history, present in virtually every healing tradition that has ever been documented.

In ancient Greece, the temples of Asclepius, the god of medicine, served as sites of what we would today recognize as a therapeutic milieu. People seeking healing from illness, including mental illness, would travel to these temples, undergo ritual purification, sleep within the sacred precincts (a practice called incubation), and receive from the priests interpretations of the healing dreams that the god would supposedly send to the sleeper. The ritual context, the journey, the acts of purification, the quality of attention from trained interpreters of experience, and the symbolic power of the divine encounter all contributed to outcomes that ancient records describe as frequently positive. We cannot verify these claims, and we should be appropriately skeptical of them. But we can recognize in this practice the outlines of something that has more in common with modern psychotherapy than with modern pharmacology: healing through a ritualized human encounter that addresses the meaning of suffering.

In the Galenic medical tradition that dominated Western medicine from antiquity through the Renaissance, the physician's role included what we might call psychological as well as physical care. The good physician was expected to understand the patient's emotional state, to engage with them with compassion, and to use the relationship between physician and patient as a therapeutic instrument. The concept of the therapeutic relationship is not, in other words, a twentieth-century discovery; it is a rediscovery and a scientific elaboration of something that good healers across many traditions have always known.

In the Islamic medical tradition, as discussed in Chapter Two of this textbook, physicians like Avicenna developed sophisticated accounts of psychological conditions and advocated for psychological as well as physical treatments. Avicenna's description of what he called love sickness, and his account of the physician's role in helping the patient understand and manage their emotional state, represents an early form of what we would today call psychologically informed medicine.

In the Ayurvedic and Unani traditions that have shaped medical practice in the Bengal region, the relationship between healer and patient was understood as central to healing from the beginning. The healer did not simply prescribe remedies; they listened, counseled, advised on the management of emotions and relationships, and offered interpretive frameworks that helped the patient understand their suffering within a larger cosmological context. The kabiraj who counseled a troubled patient about the doshic imbalances underlying their distress, or the fakir who engaged with a person possessed by a jinn through a combination of recitation, ritual, and

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relational engagement, was performing a form of psychological healing, however different its theoretical foundations from those of contemporary evidence-based psychotherapy.

This historical perspective does not imply that traditional healing is equivalent to modern psychotherapy, or that the scientific development of psychotherapy represents merely a Western cultural imposition on pre-existing systems of healing. Modern psychotherapy has achieved something genuinely new: it has submitted the healing relationship to systematic study, identified its active ingredients, developed methods for training healers in the use of these ingredients, and established through randomized controlled trials and other rigorous methods that specific forms of psychological intervention produce specific and measurable benefits for specific conditions. This is a genuine intellectual and clinical achievement. But it is an achievement that builds on, rather than replacing, a much older and broader tradition of healing through relationship, and understanding this longer history enriches and contextualizes the more recent scientific story.

85.3 The Birth of Modern Psychotherapy: Mesmer, Charcot, Freud, and the Discovery of the Unconscious

The history of modern psychotherapy conventionally begins with Franz Anton Mesmer (1734-1815), the flamboyant Viennese physician who developed the theory and practice of animal magnetism. Mesmer believed that illness, including mental illness, arose from disturbances in an invisible magnetic fluid that permeated the human body and the universe, and that healing could be accomplished by a skilled practitioner who used special techniques to restore the flow of this fluid. His séances in Paris in the 1780s, at which wealthy patients gripped magnetized iron rods and entered altered states of consciousness in a specially designed tub called a baquet, were extraordinarily popular and apparently produced genuine therapeutic effects, including the relief of symptoms of hysteria and other functional conditions.

Mesmer was investigated by a Royal Commission appointed by Louis XVI, which included Benjamin Franklin among its members, and was found to have no scientific basis: the commission concluded that the effects of animal magnetism were attributable to imagination rather than to any real physical force. Mesmer was professionally ruined, but animal magnetism, or mesmerism, continued to be practiced by his followers and was later renamed hypnosis by the Scottish surgeon James Braid in the 1840s.

The scientific status of hypnosis was vigorously contested throughout the nineteenth century. The neurologist Jean-Martin Charcot (1825-1893), working at the Salpetriere hospital in Paris, used hypnosis to study and demonstrate hysteria, and his dramatic public demonstrations of hysterical phenomena, including the production and removal of hysterical symptoms through hypnotic suggestion, were enormously influential. A rival school, centered in Nancy and led by Hippolyte Bernheim, argued that hypnotic phenomena were simply the result of suggestion rather than a specific neurological state. This debate, between those who thought hypnosis revealed something about the structure of the mind and those who thought it was simply a manifestation of social influence, echoes debates that continue in slightly different form in contemporary psychology.

Sigmund Freud, who visited Charcot in Paris in 1885-1886, was profoundly influenced by his observations. He returned to Vienna with a deep interest in hysteria and a dawning conviction

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that hysterical symptoms were not simply neurological phenomena but were expressions of unconscious psychological conflicts. Working initially with Josef Breuer, Freud developed the cathartic method: a technique in which patients were encouraged, under hypnosis or simply in a relaxed state, to recall the traumatic memories that were hypothetically responsible for their symptoms. When these memories could be recalled and their associated emotions expressed, the symptoms reportedly improved or resolved. The theoretical account that Freud developed to explain this phenomenon, that symptoms represent the disguised expression of repressed traumatic memories and their associated affects, became the foundation of psychoanalysis.

The theoretical elaboration of psychoanalysis over the following decades was enormous in scope and ambition. Freud developed a comprehensive theory of the mind (including the structural model of id, ego, and superego, and the topographic model of conscious, preconscious, and unconscious), a theory of psychological development (the stages of psychosexual development and their importance for adult personality), a theory of psychopathology (the various ways in which unresolved psychological conflicts produce symptoms and character traits), and a theory of therapy (the processes of transference, resistance, and working-through through which the analyst and patient collaboratively explore the patient's unconscious dynamics). He wrote with extraordinary literary skill and conceptual ambition on subjects ranging from dreams to jokes, from civilization to religion, from creativity to death, and his ideas permeated not only medicine and psychology but the entire intellectual life of the twentieth century.

For our purposes in this textbook, several aspects of Freud's legacy deserve particular emphasis. First, Freud established the listening clinician as a therapeutic archetype: a figure who heals through attentive, non-judgmental listening and through the reflective interpretation of experience. This model of the therapeutic relationship has been enormously influential even for practitioners who reject most of the specific theoretical claims of psychoanalysis. Second, Freud insisted on the irreducible importance of the patient's subjective experience and of the meanings attached to symptoms, establishing a form of clinical attention that resists reduction to purely biological or behavioral accounts. Third, Freud's method was deeply shaped by the cultural context of late nineteenth-century Vienna, and many of its specific features, including its extended duration, its assumption that the patient has leisure time and economic security for multiple sessions per week over years, its focus on verbal sophistication and introspective capacity, its emphasis on oedipal and sexual themes, and its individualistic assumptions about the self, are not necessarily generalizable to other cultural contexts. This limitation is particularly important for the application of psychodynamic approaches in Bangladesh.

85.4 The Behavioral Revolution: Watson, Skinner, and the Science of Behavior Change

The psychoanalytic tradition that dominated psychiatry and psychology in the first half of the twentieth century was challenged, first in experimental psychology and then in clinical practice, by the behavioral revolution. Behaviorism, associated most powerfully with John B. Watson in the United States and Ivan Pavlov in Russia, insisted that psychology should study only observable behavior, not unobservable mental states, and that behavior was shaped entirely by the individual's history of conditioning: the contingent relationships between stimuli and responses that the environment provided. The claim that all behavior could be explained by conditioning, and that mental illness could therefore be understood as a collection of

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maladaptive conditioned responses, was audacious and, as it turned out, not entirely correct. But it generated a remarkably productive research program that laid the foundations for evidence-based psychological treatment.

The most clinically important early application of behavioral principles was the systematic desensitization technique developed by Joseph Wolpe in the 1950s. Wolpe proposed that anxiety and phobia were conditioned responses that could be extinguished through repeated exposure to the feared stimulus in a state of relaxation that was incompatible with anxiety. His technique involved constructing a hierarchy of feared situations, teaching the patient progressive muscle relaxation, and then systematically pairing relaxation with progressive exposure to items on the hierarchy, beginning with the least anxiety-provoking and moving gradually toward the most feared. The results, documented in controlled studies from the 1950s onward, were impressive: systematic desensitization produced significant reductions in phobia and anxiety that were substantially better than control conditions. These findings established, for the first time, that a non-pharmacological, non-psychoanalytic psychological intervention could be scientifically validated through controlled outcome research.

The operant conditioning principles developed by B.F. Skinner, while never as directly translated into clinical practice as Wolpe's classical conditioning-based techniques, also had important clinical applications. The token economy, a system in which desirable behaviors in psychiatric inpatients were systematically reinforced through the award of tokens that could be exchanged for privileges or desired items, was widely used in institutional psychiatric settings from the 1960s onward. Applied behavior analysis, which applies operant principles to the management of autism spectrum disorder and intellectual disability, remains the most evidence-based approach to behavioral intervention for these conditions.

The behavioral tradition also produced the technique of behavioral activation for depression, which deserves special mention because of its particular relevance to low-resource settings. Behavioral activation is based on the observation that depressed people progressively withdraw from activities that might provide pleasure or a sense of accomplishment, and that this withdrawal perpetuates and deepens depression through a vicious cycle of reduced activity, reduced positive reinforcement, and worsening mood. The treatment consists simply of helping the patient schedule and engage in valued activities, regardless of their motivation to do so, with the expectation that engagement in meaningful activity will improve mood and break the cycle of withdrawal. Behavioral activation has been shown in multiple randomized controlled trials to be as effective as full cognitive therapy for depression, and it requires significantly less training to deliver than more cognitively elaborate therapies, making it particularly suitable for delivery by briefly trained community health workers in resource-limited settings.

85.5 The Cognitive Revolution and the Emergence of Cognitive-Behavioral Therapy

The cognitive revolution in psychology, which gathered momentum in the 1950s and 1960s, challenged the behaviorist orthodoxy that mental states were irrelevant to the scientific study of behavior. Cognitive psychologists argued that what happened between the stimulus and the response mattered enormously: that mental representations, expectations, beliefs, and interpretive schemas shaped behavioral responses in ways that could not be reduced to stimulus-

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response conditioning. This insight, while broadly influential throughout psychology, was given its most clinically important form by Aaron Beck.

Beck was trained as a psychoanalyst but became skeptical of psychoanalytic explanations for depression when his research failed to confirm the psychoanalytic theory of depression as hostility turned against the self. Instead, his careful clinical observations led him to identify what he called the cognitive triad of depression: the characteristic negative patterns of thinking about oneself, the world, and the future that seemed to maintain and perpetuate depressive mood. He developed cognitive therapy as a structured, time-limited, present-focused treatment aimed at helping patients identify, examine, and challenge these negative thought patterns.

The evidence base for cognitive therapy, and for the broader cognitive-behavioral therapy (CBT) framework that emerged from the integration of Beck's cognitive therapy with behavioral techniques, has accumulated massively over the past five decades. CBT is now the most extensively researched psychotherapeutic approach in the world. Multiple meta-analyses have confirmed its efficacy for depression, generalized anxiety disorder, panic disorder, social anxiety disorder, obsessive-compulsive disorder, PTSD, eating disorders, insomnia, chronic pain, and many other conditions. The effect sizes achieved by CBT in well-conducted randomized controlled trials are clinically meaningful, comparable to those achieved by pharmacotherapy for many conditions, and in some conditions (notably specific phobias and OCD) superior to pharmacotherapy alone.

The specific techniques of CBT that have been most extensively studied include thought records (structured worksheets that help patients identify, examine, and challenge negative automatic thoughts), behavioral experiments (planned activities designed to test the validity of negative beliefs), activity scheduling and behavioral activation, exposure techniques (gradual, planned confrontation with feared situations), and cognitive restructuring (the systematic examination and challenging of distorted patterns of thinking). The collaborative, empirical stance of the cognitive therapist, treating the patient's thoughts as hypotheses to be tested rather than facts to be accepted or rejected, is both technically and relationally distinctive.

85.6 The Third Wave: Dialectical Behavior Therapy, Acceptance and Commitment Therapy, and Mindfulness-Based Approaches

Beginning in the 1990s and accelerating through the 2000s, a cluster of new approaches emerged that are collectively sometimes called the third wave of cognitive-behavioral therapies. While the first wave was behavioral (focused on conditioning and behavior change) and the second wave was cognitive (focused on the content of thoughts and their role in maintaining distress), the third wave focuses more on the individual's relationship to their thoughts and emotions rather than primarily on changing their content. These approaches draw heavily on mindfulness, a practice rooted in Buddhist contemplative tradition, and on acceptance as a therapeutic value.

Marsha Linehan's Dialectical Behavior Therapy (DBT) was developed specifically for individuals with borderline personality disorder, particularly those who engaged in chronic suicidal behavior and self-harm. DBT combines individual therapy, skills training groups,

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telephone consultation, and therapist consultation teams. Its name reflects its central organizing principle: the dialectic between acceptance (validating the patient's experience as it is) and change (working collaboratively toward different and healthier patterns of behavior). The skills taught in DBT include mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness. DBT has one of the strongest evidence bases of any psychological treatment for borderline personality disorder and has also been applied with growing evidence to other conditions including eating disorders, substance use disorders, and depression with suicidal ideation.

Steven Hayes' Acceptance and Commitment Therapy (ACT) emerged from a radical behavioral tradition, but developed in a direction that emphasized the role of psychological flexibility as the key to mental health and the key target of therapeutic intervention. ACT proposes that psychological inflexibility, specifically the tendency to be dominated by rigid patterns of thinking and to struggle against difficult internal experiences, is the core psychological process underlying a wide range of psychological problems. The treatment aims to reduce cognitive fusion (the tendency to be dominated by thoughts), increase acceptance of difficult emotions and experiences (rather than trying to eliminate them), develop a stable sense of self that is not dependent on the content of thoughts and feelings, clarify personal values, and promote committed action in the direction of those values. ACT has accumulated a substantial evidence base across a range of conditions and has the particular advantage of being transdiagnostic, applicable to multiple different conditions without requiring major modification.

Mindfulness-based cognitive therapy (MBCT), developed by Zindel Segal, Mark Williams, and John Teasdale and based on Jon Kabat-Zinn's mindfulness-based stress reduction (MBSR) program, was designed specifically as a maintenance treatment for people who had recovered from depression and were at risk of relapse. MBCT teaches mindfulness meditation practices and cognitive therapy skills with the specific aim of helping people recognize early warning signs of depressive relapse and respond to them with awareness and equanimity rather than with the ruminative thinking patterns that can amplify and sustain depression. Multiple randomized controlled trials have established that MBCT reduces relapse rates in people with three or more previous depressive episodes by approximately 40 to 50 percent compared to treatment as usual, a clinically very significant effect that has made MBCT a recommended treatment in major clinical guidelines.

The mindfulness-based approaches are of particular cultural interest in Bangladesh and other South Asian countries because mindfulness has its historical roots in South Asian Buddhist contemplative traditions. The insight meditation practices (vipassana) and loving-kindness meditation (metta) that underlie modern mindfulness-based therapies were developed in Buddhist communities in South Asia over several thousand years. While most people in Bangladesh are Muslim rather than Buddhist, the contemplative practices of Islam, including dhikr (repetitive invocation of the names of God), salat (the five daily prayers), and the meditative practices of Sufi tariqas, share structural similarities with mindfulness meditation that may make mindfulness-based approaches more culturally accessible in the Bangladeshi context than might initially appear. The potential for developing culturally adapted mindfulness-based interventions that draw on Islamic contemplative traditions is an underexplored area of research with significant promise.

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85.7 Philosophical Foundations of Psychotherapy: What Does It Mean to Change a Mind?

Psychotherapy does not merely rest on empirical foundations. Its deepest commitments are philosophical. Every form of psychotherapy embodies, implicitly or explicitly, a theory of the person: of what human beings are, of what makes them suffer, of what constitutes flourishing, and of what kinds of change are possible and desirable. These philosophical commitments are not incidental to therapeutic practice; they shape every aspect of how the therapist relates to the patient, what they attend to, what they aim at, and how they respond to the inevitable moments of uncertainty and difficulty in therapeutic work.

The philosophical tradition most directly relevant to contemporary psychotherapy is existential phenomenology: the philosophical tradition that begins with Kierkegaard and Nietzsche and is elaborated by Heidegger, Sartre, Merleau-Ponty, Husserl, and their successors. This tradition insists on the primacy of individual existence, on the inescapability of freedom and responsibility, on the inevitability of anxiety as a feature of human consciousness, and on the importance of authentic engagement with life's fundamental challenges, including death, freedom, meaning, and isolation. These themes are central to the existential-humanistic tradition of psychotherapy associated with figures like Rollo May, Irvin Yalom, and Viktor Frankl, whose logotherapy was developed in part from his experience as a survivor of the Nazi concentration camps.

Yalom, whose works have been translated into dozens of languages and read widely beyond the professional community, identified four ultimate existential concerns that he regards as the deepest sources of psychological suffering: death (the awareness of our own mortality and its challenge to our sense of meaning and security), freedom (the terrifying recognition that we are ultimately responsible for the lives we make), isolation (the fundamental separateness of each person from every other), and meaninglessness (the recognition that life does not come with built-in meaning but requires us to create it). Therapeutic work, from this perspective, involves not the removal of anxiety but the development of a more authentic and courageous engagement with the existential conditions of human life.

The relevance of this philosophical tradition to Bangladesh, where death, suffering, deprivation, and the search for meaning are features of everyday life for many people in ways that affluent Western societies largely manage to avoid, is immediate and profound. The Bangladeshi person who has survived a cyclone that killed family members, or who lives with the permanent presence of hunger and economic insecurity, or who carries the intergenerational transmission of the trauma of 1971, is living in close proximity to the existential concerns that Yalom identifies as the deepest sources of suffering. A psychotherapy that takes these concerns seriously, that does not seek merely to remove symptoms but to help the person find a way of living with greater dignity, meaning, and resilience in genuinely difficult circumstances, is not a luxury for the affluent but a profound human necessity.

The relational turn in psychotherapy, which has been one of the most significant developments of the past three decades, has brought philosophical questions about self and other to the center of clinical theory and practice. Influenced by object relations theory (Winnicott, Klein, Fairbairn), intersubjectivity theory (Stolorow, Atwood, Orange), and relational psychoanalysis (Mitchell,

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Aron, Benjamin), the relational perspective argues that the self is fundamentally constituted through relationship, that psychological suffering arises primarily from disruptions and distortions in relational experience, and that healing occurs through the creation of a new kind of relational experience within the therapeutic encounter itself. The relational emphasis on mutuality, on the real presence of the therapist as a person, and on the co-creation of meaning within the therapeutic relationship challenges both the objectivist assumptions of CBT and the classical psychoanalytic model of the detached, opaque analyst. It also resonates powerfully with cultural contexts, like Bangladesh, in which the self is understood as inherently relational and communal rather than as a bounded, autonomous individual.

85.8 The Common Factors Debate: What Really Works in Psychotherapy?

One of the most productive and contentious debates in psychotherapy research concerns the relative contribution of specific therapeutic techniques, on one hand, and common factors shared across all forms of psychotherapy, on the other hand, to therapeutic outcomes.

The specific factors argument holds that different forms of psychotherapy work through different and specific mechanisms: CBT works through changing maladaptive cognitions, systematic desensitization works through extinction of conditioned fear responses, psychodynamic therapy works through insight into unconscious patterns, and so on. On this view, the differences between approaches matter, the specific techniques matter, and the accumulation of evidence for specific therapies for specific conditions is the appropriate research program for the field.

The common factors argument, associated with Saul Rosenzweig's 1936 paper that first proposed the idea and developed through the work of Jerome Frank, Michael Lambert, and Bruce Wampold, holds that the differences in outcome between bona fide psychotherapies are small or negligible, and that most of the variance in outcomes is attributable to factors that are common across all approaches: the therapeutic alliance (the quality of the relationship between therapist and patient), the therapist's empathy, positive regard, and genuineness (the core conditions identified by Carl Rogers), the credibility of the treatment rationale, and the expectation of improvement that a credible therapeutic framework provides. On this view, the specific techniques of different schools matter less than these relational and expectational factors, and training therapists in good relationship skills may be as important as or more important than training them in specific techniques.

The debate between these positions is not fully resolved, and the most sophisticated contemporary view probably holds that both specific factors and common factors contribute to outcomes, with their relative importance varying across conditions and patients. For highly specific conditions like simple phobia or OCD, specific techniques of exposure may be particularly important. For complex, relationship-based disorders like personality disorders, the therapeutic relationship may be the primary vehicle of change.

For Bangladesh, this debate has particularly important practical implications. The common factors perspective, if correct, implies that training large numbers of briefly trained community health workers in basic therapeutic skills, including empathy, active listening, a credible therapeutic rationale, and the facilitation of hope, may produce substantial therapeutic benefit

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even without extensive training in specific techniques. The specific factors perspective implies that at least some of the most effective elements of specific therapies, particularly behavioral activation for depression and exposure for anxiety, must be specifically taught and implemented. The evidence from low- and middle-income country task-sharing trials, discussed in later chapters, is broadly consistent with the view that common factors combined with a small number of specific techniques can produce meaningful therapeutic benefits even when delivered by briefly trained non-specialists.

CHAPTER EIGHTY-SIX: COGNITIVE BEHAVIORAL THERAPY IN BANGLADESH - THEORY, EVIDENCE, AND THE CHALLENGE OF CULTURAL ADAPTATION

86.1 The Global Dominance of CBT and the Question of Its Universality

Cognitive-behavioral therapy occupies a position of remarkable dominance in contemporary evidence-based psychotherapy. More randomized controlled trials have tested CBT than all other forms of psychotherapy combined. Most clinical guidelines in high-income countries recommend CBT as a first-line psychological treatment for depression, anxiety disorders, OCD, PTSD, eating disorders, insomnia, and many other conditions. Training programs in CBT are available in most countries, and CBT-based digital interventions have been developed for delivery through smartphones and computers, extending its potential reach to populations that would otherwise have no access to face-to-face psychotherapy.

This dominance has generated its own critical reaction. Some critics argue that CBT's empirical success reflects not its superior efficacy but its superior compatibility with the paradigm of evidence-based medicine: its manualized, protocol-driven character makes it easier to standardize and test in randomized controlled trials than more relational, individually tailored therapies, and the evidence base may therefore reflect the research paradigm as much as genuine therapeutic superiority. Others argue that CBT's emphasis on cognitive content, on the explicit examination and challenging of thoughts, is culturally specific rather than universal: it presupposes a particular culturally embedded view of the relationship between thinking and emotion, a view that may not be shared by people with different cultural backgrounds.

These critiques deserve serious engagement, and we will address them in detail in this chapter. However, they should not obscure the very substantial evidence that CBT and its adaptations can be effectively delivered in low- and middle-income country settings, including in South Asian contexts broadly similar to Bangladesh, with meaningful clinical benefits. The evidence from Pakistan, India, Sri Lanka, and other South Asian countries for the effectiveness of adapted CBT, delivered by trained specialists or by task-sharing non-specialists, for common mental disorders is sufficiently robust that dismissing CBT as culturally inapplicable would be a mistake. The challenge is not whether CBT can be used in Bangladesh, but how it needs to be adapted, abbreviated, supplemented, and culturally reconceptualized to work most effectively in the specific context.

86.2 The Core Model: Thinking, Feeling, and Behavior in Cognitive-Behavioral Theory

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The cognitive-behavioral model proposes that emotions, behaviors, and physical sensations are powerfully shaped by the way an individual thinks about and interprets their experiences. This is not a claim that people choose to be depressed or anxious, or that cognitive patterns are purely consciously controlled. Rather, it is a claim that habitual patterns of thinking, many of which are rapid, automatic, and not easily accessible to conscious awareness, play a central causal role in the development and maintenance of psychological distress.

Beck identified three levels of cognitive structure that are relevant to understanding psychological disorder. The first level consists of automatic thoughts: rapid, often fleeting thoughts that arise in specific situations and carry emotional valence. The person with depression who wakes in the morning and thinks "Another day of nothing but failure" is experiencing an automatic thought. These thoughts are often experienced as reflexive and self-evident rather than as interpretations that could be questioned. The second level consists of dysfunctional assumptions or intermediate beliefs: conditional rules and assumptions that govern behavior and that, when violated, trigger automatic thoughts and emotional distress. The depressed person's underlying assumption might be: "Unless I succeed at everything I do, I am worthless." The third and deepest level consists of core beliefs: fundamental schemas about the self, the world, and others that are formed in early experience and that shape all subsequent processing of information. Common depressogenic core beliefs include "I am fundamentally unlovable," "I am helpless," and "The world is a dangerous place."

The therapeutic process in CBT involves working at all three levels. In the early stages of therapy, the focus is primarily on automatic thoughts: helping the patient identify them, examine the evidence for and against them, and develop more accurate and helpful alternative interpretations. This work uses a range of specific techniques, including Socratic questioning (the therapist uses a series of guided questions to help the patient examine their own assumptions rather than simply telling them that their thoughts are inaccurate), thought records (structured written exercises that help patients identify, examine, and respond to automatic thoughts), and behavioral experiments (planned activities designed to test the validity of specific beliefs). As therapy progresses, the work moves to intermediate beliefs and core beliefs, exploring the developmental origins of these patterns and working to modify them through a combination of cognitive and experiential techniques.

The behavioral component of CBT is equally essential. Behavioral techniques include activity scheduling and behavioral activation (particularly central in the treatment of depression), graded task assignment (breaking down overwhelming tasks into manageable steps), exposure (systematic confrontation with feared situations in anxiety disorders), and response prevention (preventing compulsive behaviors in OCD). The integration of cognitive and behavioral techniques reflects the fundamental insight of CBT that thinking and behavior are reciprocally related: maladaptive thoughts lead to avoidant behaviors that prevent the accumulation of corrective experience, while behavioral change can itself directly modify maladaptive thinking patterns.

86.3 Adapting CBT for the Bangladeshi Context: The 2024 BMC Psychiatry Landmark Study

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The publication in December 2024 of the first pilot study of an adapted CBT manual for depression in Bengali, in the journal BMC Psychiatry, represents a significant milestone in the development of culturally appropriate psychological therapies in Bangladesh. The study, conducted by Ara and Deeba and their colleagues, described a three-phase process of adaptation that illuminates both the necessity and the methodology of cultural adaptation in this context.

In the first phase, the investigators gathered information about the cultural context of depression in Bangladesh, reviewing the existing literature on depression in Bangladesh, consulting with experienced CBT practitioners, and drawing on direct clinical experience with depressed patients in Bangladeshi settings. They identified several cultural factors that needed to be addressed in any effective adaptation: the predominantly somatic presentation of depression in Bangladesh, with physical symptoms like head heaviness, chest tightness, and body weakness as the primary presenting complaints; the role of religious frameworks in understanding suffering, with many patients attributing their condition to divine will or to lack of faith; the importance of family relationships as both a source of stress and a potential resource for recovery; the stigma associated with explicit discussion of emotional problems; the limited familiarity of many Bangladeshi patients with the concept of psychological therapy; and the generally lower level of psychological literacy that could be assumed in a Bangladesh population compared to the populations for which the original CBT manuals were developed.

In the second phase, the adaptation of the CBT manual was subject to expert review by seven senior clinical psychologists in Bangladesh with specific training in CBT. Their collective expertise identified additional adaptations that were needed, including the use of Bengali language idioms for emotional and cognitive concepts that did not have direct translations, the incorporation of examples and case vignettes drawn from Bangladeshi cultural context, the modification of exercises to reflect the everyday realities of life in Bangladesh, and the inclusion of psychoeducation elements that acknowledged the spiritual and religious frameworks through which many patients would understand their condition.

In the third phase, the adapted manual was piloted with five patients who had been diagnosed with major depression by psychiatrists. The intervention was delivered in 6 to 10 sessions, a substantially shorter duration than the standard 12 to 20 sessions of CBT in high-income country practice, reflecting both the resource constraints of the Bangladeshi context and the evidence from low-income country trials that briefer adaptations can be effective. Assessments of depression, anxiety, psychological distress, and suicidal risk were conducted at baseline and at the end of treatment. All five patients showed improvements across all outcome measures, providing preliminary evidence for the feasibility of the adapted intervention.

While this pilot study was limited in scale and lacked a control condition, its significance lies in the systematic documentation of the adaptation process and in the creation of the first published, expert-validated CBT manual in Bengali. The next steps, which the authors recommended as priorities for future research, include conducting a full randomized controlled trial of the adapted intervention with an adequate sample size, testing the intervention when delivered by task-sharing non-specialists rather than trained psychologists, and extending the adaptation to anxiety disorders, trauma, and other common conditions beyond depression.

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Several specific adaptation decisions made in this study are worth examining in some detail, as they illustrate the broader principles of cultural adaptation in psychotherapy. The decision to work with somatic idioms of distress rather than requiring patients to reframe their experience in psychological terms reflects the evidence that in many non-Western cultural contexts, the effectiveness of psychological interventions is enhanced rather than diminished by using culturally familiar metaphors and frameworks. Rather than telling the patient that their head heaviness is really a symptom of depression and teaching them to think of it as a cognitive rather than a physical phenomenon, the adapted CBT works with the physical symptom as a legitimate starting point for understanding the interaction between thinking, feeling, and physical experience. This approach, sometimes called the somatic gateway, uses the patient's own framework as an entry point into the cognitive model rather than beginning with a framework that may feel alien or dismissive.

The adaptation of the therapeutic relationship is also important. In the standard Western model of CBT, the therapeutic relationship is collaborative and relatively egalitarian, with the patient treated as an active participant in the therapeutic process and the therapist as a facilitator rather than an authority. In Bangladesh, where the physician or expert is typically accorded great authority and where patients may expect to be told what to do rather than invited into collaborative inquiry, this egalitarian stance can feel confusing or even disrespectful. The adapted CBT in Bangladesh typically involves a somewhat more directive therapeutic style in the early stages, with the therapist taking a more active educational role, while maintaining the collaborative spirit of examining and testing the patient's own beliefs rather than simply imposing the therapist's interpretation.

The religious and spiritual dimension of the adaptation is perhaps the most delicate and important. Islam is central to the identity and daily experience of the overwhelming majority of Bangladeshis, and any psychotherapy that ignores or implicitly contradicts Islamic values and frameworks is unlikely to be acceptable or effective. The adapted CBT manual incorporates references to Islamic teachings about the nature of suffering, the importance of patience (sabr) and gratitude (shukr) as spiritual virtues, and the role of prayer (salat) and remembrance of God (dhikr) as legitimate coping resources. The cognitive model, in this adaptation, is presented not as an alternative to Islamic understanding but as a practical framework for understanding how the mind works, complementary to Islamic values and practices. This integration of religious and cognitive frameworks is not a capitulation to non-evidence-based thinking but a recognition of the cultural reality that for most Bangladeshi patients, the meaning of their suffering is inseparable from their religious framework, and any intervention that does not engage with this framework will be working against, rather than with, the patient's most fundamental resources.

86.4 CBT for Specific Conditions: Evidence and Adaptations

The application of CBT in Bangladesh spans a range of conditions, each requiring specific adaptations appropriate to the local cultural and clinical context.

For depression, the adapted CBT model described above provides a foundation, supplemented by behavioral activation as a particularly important component given the withdrawal and inactivity that characterize depressive presentations in Bangladesh. Behavioral activation is

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especially suitable for delivery by task-sharing non-specialists because it requires less complex training than the cognitive components and produces meaningful clinical benefits on its own. Several community health worker training programs in South Asia have used behavioral activation as a core component, with positive results. The concept of behavioral activation translates reasonably well into Bengali through the concept of karmashanglagna howa, becoming engaged in meaningful activity, which has resonance both in everyday language and in Islamic frameworks that emphasize purposeful action as a religious duty.

For anxiety disorders, the core principle of exposure, the gradual, planned confrontation with feared situations until anxiety diminishes through habituation and learning, is applicable in Bangladesh but requires careful adaptation. The concept of avoidance, which is central to the cognitive-behavioral understanding of anxiety disorders, needs to be distinguished from the culturally normative avoidance practices associated with purdah and gender-based restrictions on women's movement and social participation, which are not equivalent to the avoidance that maintains anxiety disorders and should not be treated as such. The clinician must develop a nuanced understanding of the patient's cultural context in order to distinguish between adaptive cultural practices and maladaptive anxiety-driven avoidance.

For PTSD, the two most extensively studied psychological treatments are trauma-focused CBT and EMDR (Eye Movement Desensitization and Reprocessing). Both involve a component of systematic processing of traumatic memories, and both have shown effectiveness in multiple randomized controlled trials in high-income country populations. The application of these approaches in Bangladesh, particularly in the context of the trauma experienced by Rohingya refugees and by survivors of climate-related disasters, requires careful adaptation. Several pilot projects in the Cox's Bazar region, led by international humanitarian organizations, have tested simplified trauma-focused psychological interventions delivered by lay counselors, with promising results. The cultural and linguistic adaptation of trauma-focused approaches is particularly challenging because the processing of traumatic memories is deeply culturally embedded: what it means to remember and to speak about trauma, what the appropriate expressions of grief and distress are, and what constitutes recovery from trauma, vary significantly across cultural contexts.

For OCD, the combination of exposure and response prevention (ERP) and cognitive restructuring is highly effective but also highly challenging to deliver in a resource-limited context. ERP requires the patient to confront obsessional triggers and to refrain from performing the compulsive rituals that temporarily reduce anxiety, which is intensely distressing in the short term and requires sustained therapeutic support and a strong therapeutic alliance. In Bangladesh, OCD presentations are frequently shaped by religious concerns, including intrusive thoughts about blasphemy or impurity, doubts about whether religious rituals have been performed correctly, and compulsive religious practices aimed at neutralizing impure thoughts. The management of religiously shaped OCD requires both clinical expertise and cultural and religious sensitivity, including an understanding of the distinction between sincere religious practice and OCD-driven compulsive ritual. Collaboration with religious scholars who can clarify Islamic teaching about the nature of intrusive thoughts and the limits of ritual obligation can be genuinely therapeutic in this context.

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86.5 Group CBT: A Resource-Efficient Approach for Bangladesh

Individual CBT, delivered in the one-on-one format used in most research trials, is resource-intensive and unsuitable for widespread implementation in a country with Bangladesh's current mental health workforce. Group-based CBT offers a potential solution that is not only more resource-efficient (one therapist can treat multiple patients simultaneously) but also brings its own specific therapeutic benefits: the normalization of distress through shared experience, the development of interpersonal skills within the group, peer support and mutual encouragement, and the opportunity to practice behavioral experiments within the group context.

Multiple randomized controlled trials have demonstrated that group CBT is comparably effective to individual CBT for depression and anxiety disorders, with smaller per-patient therapist time investment. In South Asian settings, including Pakistan and India, group-based psychological interventions have been successfully delivered by trained lay workers for common mental disorders, with effect sizes comparable to those achieved by specialist-delivered individual therapy.

In Bangladesh, group CBT has been piloted in several settings, including outpatient clinics, primary health centers, and workplace settings. The garment manufacturing sector, which employs approximately four million workers, predominantly young women, offers a particularly important and underexplored setting for group-based mental health intervention. The Moner Kotha project, a partnership between SAJIDA Foundation, the British Asian Trust, and Primark, has been developing and testing workplace-based mental health interventions for garment workers, recognizing that this population has high rates of mental health problems associated with workplace stress, poverty, gender-based discrimination, and difficult living conditions. The evidence from this and similar initiatives is preliminary but encouraging, and the development of culturally adapted, group-based psychological interventions for workplace settings represents a promising approach to expanding mental health care in Bangladesh.

86.6 Case Study 86.1: CBT for Depression in a Rural Bangladeshi Woman

Fatema Begum is a 38-year-old woman from a village in Jessore district. She is the mother of three children, married to a small farmer. She presented to the upazila health complex with complaints of headache, body weakness, and inability to do household work. She had been seen three times by the general physician, who had found no physical cause for her symptoms and had referred her for mental health assessment.

Psychiatric evaluation found that she had been experiencing depressed mood for approximately six months, since the death of her mother. She described herself as feeling heavy-hearted, empty, and without energy. She had stopped visiting neighbors, which had previously been a daily pleasure. She was not eating well, was sleeping poorly with early morning awakening, and was having passive thoughts that she would be better off dead, though she had no active suicidal intent. She attributed her condition to Allah's will and to the absence of her mother, for whom she was grieving.

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The clinical psychologist who assessed her provided a formulation that integrated her experience: her grief at her mother's death was real and appropriate, but it had triggered a set of automatic thoughts about her own inadequacy ("I am not managing the household properly without my mother's guidance") and hopelessness ("My life will never be happy again") that were perpetuating and deepening her depression. The functional consequence was a progressive withdrawal from activities she had previously enjoyed, which in turn confirmed her negative thoughts about herself and her life.

With the therapist's assistance, Fatema was able to identify several key automatic thoughts that occurred most frequently and that caused her the most distress. The therapist used a collaborative, respectful approach, framing the work as helping her understand the connection between her thoughts and her feelings in the way that Allah has created the human mind to work. She was able to examine evidence for and against the thought "I am not managing the household properly," and found that in fact she was continuing to cook for her family, care for her children, and maintain the home, even while feeling terrible. This evidence was challenging to the automatic thought, and while it did not immediately lift her mood, it created a small opening for a different perspective.

The behavioral component of the work focused on identifying activities that had previously given her pleasure or a sense of accomplishment: visiting her neighbor and close friend, gardening, reciting Quran in the evening. She agreed to schedule one of these activities each day, beginning with the shortest and least demanding. Over the following six sessions, delivered weekly at the health complex with a task-trained community health worker providing between-session support, Fatema showed progressive improvement in her activity levels, mood, and functioning. Her headache and weakness, which had been the presenting complaint, also improved as her depression improved, consistent with the understanding that these were somatic expressions of her depressive disorder rather than independent physical problems.

By session eight, she was engaging regularly in previously avoided activities, sleeping better, eating normally, and describing herself as feeling "lighter." She continued to grieve her mother, which was appropriate and healthy, but the grief no longer dominated every moment of her day. She was discharged with a plan for follow-up at three months, and was encouraged to use the skills she had learned whenever she noticed the return of similar patterns.

This case illustrates several key principles: the somatic presentation of depression, the integration of religious framing in the therapeutic rationale, the importance of behavioral activation as a core component, the feasibility of brief CBT delivered in a primary care setting, and the potential for task-sharing in between-session support.

CHAPTER EIGHTY-SEVEN: PSYCHODYNAMIC AND PSYCHOANALYTIC APPROACHES IN BANGLADESH - RELEVANCE, LIMITATIONS, AND THE SEARCH FOR DEPTH

87.1 The Psychodynamic Tradition and Its Clinical Legacy

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The psychodynamic tradition, as discussed in Chapter Eighty-Five, encompasses not only classical Freudian psychoanalysis but the enormously rich and diverse theoretical developments that followed from it: object relations theory, self psychology, ego psychology, attachment theory, and contemporary relational psychoanalysis. Despite the dominance of CBT in evidence-based practice guidelines, the psychodynamic tradition has not simply dissolved into irrelevance. It continues to exert a powerful influence on clinical thinking, particularly in areas where CBT and related approaches have limitations: in the treatment of personality disorders, chronic depression, complex trauma, difficulties in intimate relationships, and the subtle but pervasive problems in living that do not fit neatly into any diagnostic category.

Several specific concepts from the psychodynamic tradition are of enduring clinical value, regardless of one's position on the broader theoretical framework. The concept of defense mechanisms, as systematized by Anna Freud and elaborated by subsequent theorists, provides a clinically useful language for understanding the automatic psychological strategies that people use to manage anxiety and to avoid awareness of threatening thoughts, feelings, and impulses. The recognition that a patient is using intellectualization to avoid emotional engagement, or denial to protect themselves from the full impact of a devastating diagnosis, or projection to locate their own unacceptable feelings in others, is clinically important and directs the clinician's attention to aspects of the clinical situation that purely symptom-focused approaches might miss.

Attachment theory, developed by John Bowlby and extended through decades of empirical research by Mary Ainsworth, Mary Main, and many others, is now one of the most extensively researched and practically important frameworks in developmental psychology and mental health. The evidence that early attachment patterns shape the development of emotional regulation, the capacity for intimacy, and the risk of mental disorder across the life course is robust and consistent across many studies and cultural settings. In Bangladesh, where early childhood adversity is common and where the quality of early caregiving varies enormously across different socioeconomic contexts, the attachment perspective provides important insights into the developmental origins of common mental disorders and personality difficulties. Attachment-informed clinical practice, which attends to the quality of the patient-therapist relationship and to the ways in which early relational experiences shape current patterns of relating, is applicable in Bangladesh even if formal long-term psychodynamic therapy is not readily available.

The concept of mentalization, or reflective functioning, developed by Peter Fonagy and colleagues, refers to the capacity to understand one's own and others' behavior in terms of underlying mental states: thoughts, feelings, desires, and beliefs. Mentalization is a developmental achievement that depends on the quality of early attachment relationships, and its impairment is associated with a range of psychiatric conditions including borderline personality disorder, antisocial personality disorder, and difficulties in parenting. Mentalization-based treatment (MBT), developed by Fonagy and Bateman, is an evidence-based psychotherapy specifically designed to improve mentalizing capacity in patients with borderline personality disorder. Preliminary evidence suggests that brief forms of MBT training can be incorporated into community health worker training in low-income settings, providing a framework for

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understanding and working with patients with profound difficulties in understanding and managing interpersonal relationships.

87.2 Why Formal Psychoanalysis Is Not Realistic for Bangladesh: Resource and Cultural Constraints

Classical psychoanalysis, with its requirement of four or five sessions per week over several years, its significant financial cost, and its strong cultural assumption of an individualistic, psychologically articulate patient with leisure time for extended self-examination, is not a realistic option for the vast majority of Bangladeshis. This is true not only for the rural poor but for most urban middle-class Bangladeshis as well. The infrastructure for psychoanalytic practice, including training institutes, supervised clinical hours, and the culture of personal analysis that classical training requires, does not exist in Bangladesh.

Beyond the resource constraints, there are genuine cultural questions about the applicability of classical psychoanalytic theory in the Bangladeshi context. The oedipal theory, which places family dynamics of desire and rivalry at the center of psychological development, is developed in the context of the nuclear family structure of nineteenth-century Vienna and reflects specific assumptions about gender roles, family organization, and sexuality that do not map directly onto Bangladeshi family structures, in which joint family households, multiple generations of caregivers, and very different gender relations create a different developmental landscape. The concept of the fully individuated, autonomous self that is the ostensible goal of psychoanalytic development is at tension with the relational and collectivist selfhood that is normative in Bangladesh.

However, the rejection of formal psychoanalysis as a realistic treatment modality in Bangladesh should not lead to the dismissal of psychodynamic thinking as clinically irrelevant. Several elements of the psychodynamic tradition are both relevant and feasible in the Bangladeshi context: a psychodynamically informed understanding of defense mechanisms and their clinical significance; attention to the therapeutic relationship and to transference and countertransference phenomena as sources of clinical information; an appreciation of the developmental origins of current difficulties; and the capacity to attend to the implicit, relational, and nonverbal dimensions of clinical communication alongside the explicit content of what the patient says. These skills are not incompatible with brief, goal-focused clinical work; they represent a deepened mode of attention that enhances any form of clinical practice.

Short-term psychodynamic psychotherapy (STPP), which delivers the core therapeutic elements of the psychodynamic approach in a time-limited format of typically 12 to 24 sessions, has accumulated an evidence base that is comparable to CBT for depression and anxiety disorders in meta-analyses. STPP focuses on identifying the patient's characteristic interpersonal and emotional patterns, exploring their developmental origins, and working through them within the therapeutic relationship within a defined time frame. This approach is more realistic for the Bangladeshi context than classical psychoanalysis, and some clinicians at NIMH and at universities with clinical psychology training programs have begun to explore its application.

87.3 Psychodynamic Understanding of Bangladeshi Cultural Phenomena

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The psychodynamic tradition provides rich conceptual resources for understanding specific cultural phenomena that are clinically important in Bangladesh, even if formal psychodynamic treatment is not widely practiced.

The phenomenon of dhat syndrome, described in earlier chapters, can be understood psychodynamically as involving the somatization of anxiety and depressive affect through a culturally available body-focused framework. The cultural belief in the vital importance of semen and the harm of its loss provides a culturally specific "container" for free-floating anxiety, sexual guilt, and somatic hypochondriasis. The psychodynamic understanding does not replace the cognitive-behavioral or biological accounts of dhat syndrome but adds a dimension of meaning that may be clinically important in case formulation and in engaging with the patient's own understanding of their suffering.

Spirit possession, as discussed in Chapter One through the case of Fatema, is a phenomenon that psychodynamic frameworks, particularly those drawing on the concept of dissociation, can illuminate. The splitting of experience that characterizes dissociation, the temporary fracture of continuous, unified self-experience into separate streams of consciousness, is a well-documented response to overwhelming trauma and stress. The cultural framework of spirit possession provides a meaning-making context for dissociative experience that is coherent within the individual's cultural world. The psychodynamic understanding of this phenomenon respects its meaning without naively accepting its supernatural claims: it understands spirit possession as a culturally shaped form of dissociation that serves specific psychological functions (providing a framework for otherwise overwhelming experience, temporarily externalizing the source of distress, and creating a legitimate context for healing) while also recognizing that the underlying dissociative processes may respond to clinically appropriate intervention.

The intergenerational transmission of trauma, particularly relevant in Bangladesh given the collective trauma of 1971 and the ongoing intergenerational effects of the experiences of the Liberation War, is a concept developed within the psychoanalytic tradition that has since been elaborated through epigenetic research and developmental psychology. The idea that traumatic experiences can affect not only those who experience them directly but also their children and grandchildren, through disruptions in parenting capacity, altered attachment patterns, and, at the biological level, epigenetic changes in stress-response systems, has profound implications for understanding the mental health of the Bangladeshi population at a multigenerational level.

CHAPTER EIGHTY-EIGHT: INTERPERSONAL THERAPY AND THE SOCIAL CONTEXT OF MENTAL ILLNESS IN BANGLADESH

88.1 The Interpersonal Model: Connecting Depression to Relationships

Interpersonal Therapy (IPT) was developed by Gerald Klerman, Myrna Weissman, and their colleagues in the 1970s as a structured, time-limited treatment for depression that focuses specifically on the interpersonal context in which depressive episodes develop and are maintained. IPT is based on the observation, going back to the work of Adolf Meyer and Harry

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Stack Sullivan, that depression occurs in an interpersonal context and that disturbances in interpersonal functioning both precipitate and perpetuate depressive episodes. The treatment aims to help the patient understand the connection between their mood and their interpersonal life, and to address the specific interpersonal problem area that is most closely associated with the current depressive episode.

IPT identifies four interpersonal problem areas that are associated with depression: grief (complicated bereavement following the death of a significant person), role transitions (difficulty adapting to a change in life circumstances such as retirement, the birth of a child, migration, or the end of a relationship), role disputes (conflicts with significant others about mutual expectations and responsibilities), and interpersonal deficits (a pattern of chronic social isolation or impoverished interpersonal relationships). In each episode of depression, one or two of these problem areas are identified as focal, and the therapy focuses on addressing these specific areas through a combination of emotional exploration, communication analysis, and skill-building.

The appeal of IPT for the Bangladeshi context is considerable. In a society where interpersonal relationships are the primary medium through which life is experienced and through which well-being is shaped, an intervention that directly targets interpersonal relationships as a route to improving mental health is conceptually well-adapted to the cultural context. The emphasis on interpersonal role disputes, in particular, is highly relevant in Bangladesh, where gender-based conflicts within families, disputes about dowry, tensions between in-laws and daughters-in-law, and the pressures of arranged marriage create a landscape of interpersonal conflict that is clearly associated with depression in many women.

The evidence base for IPT is substantial: multiple randomized controlled trials have confirmed its efficacy for depression, comparable to that of CBT, and it has also shown effectiveness for postpartum depression, eating disorders, and other conditions. The WHO has endorsed IPT as one of the first-line psychological treatments for depression in low-income country settings, in part because of evidence from a landmark randomized controlled trial in rural Uganda, conducted by Paul Bolton and colleagues, which showed that group IPT delivered by lay workers was highly effective for depression in a low-income African setting. This Ugandan trial is particularly important for Bangladesh because it demonstrated that IPT could be effectively adapted and delivered by briefly trained non-specialists in a resource-limited, non-Western cultural context.

88.2 IPT Adaptations for Bangladesh: Grief, Role Disputes, and Cultural Translation

The adaptation of IPT for Bangladesh requires attention to several specific features of the interpersonal landscape in this context.

Grief is a particularly important focus in the Bangladeshi context, given the high rates of bereavement from preventable deaths (including deaths in childbirth, deaths from preventable infectious diseases, deaths in natural disasters and accidents), the cultural frameworks for grief in Islam, and the evidence that complicated grief associated with loss of a significant person is a frequent precipitant of depression. Islamic tradition provides a structured framework for grief:

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the prescribed mourning period (iddat) of three days for relatives (and four months and ten days for a widow), the importance of community support in the immediate post-bereavement period, and the theological framework of acceptance of death as God's will (tawakkul). Where this cultural framework supports healthy grief processing, IPT can build on it. Where cultural factors complicate grief (for example, the grief of a widow whose mourning is complicated by economic insecurity, social marginalization, and the stigma of widowhood), IPT can help address the interpersonal dimensions of complicated bereavement.

Role disputes are among the most frequent interpersonal issues in the lives of Bangladeshi women seeking mental health care. The expectations placed on Bangladeshi women, both by cultural tradition and by the specific expectations of individual husbands and in-laws, are often intense, contradictory, and experienced as immovable. A woman who is expected to be simultaneously a devoted daughter-in-law, a submissive wife, a capable mother, an economically productive worker (in the garment industry or in agricultural labor), and a dutiful observer of religious practice while having little control over resources, mobility, or major decisions, is navigating a profound role conflict that is associated with high rates of depression and anxiety. IPT for Bangladeshi women must acknowledge this structural reality: the goal is not always to resolve disputes by compromise, since genuine compromise may not be achievable within the power dynamics of some marital relationships, but to help the woman understand her situation more clearly, identify the choices that are actually available to her, and develop communication and problem-solving skills that might allow her to improve her situation within the constraints she faces, or to make difficult decisions about leaving situations that are causing her serious harm.

The IPT concept of role transitions is highly relevant in the context of the dramatic social changes that Bangladesh is undergoing. Migration from rural areas to Dhaka or to overseas destinations, the transition from agricultural to industrial work, the experience of marriage as a fundamental change in role and context, and the transitions associated with widowhood, disability, and aging are all major role transitions that can precipitate depression. The brief, structured focus of IPT on the specific interpersonal challenges associated with a role transition, and on building the social skills and resources needed to navigate it successfully, is particularly well-suited to the practical, problem-focused orientation that many Bangladeshi patients prefer.

88.3 Group IPT for Postpartum Depression: An Urgent Bangladeshi Priority

The postpartum period is a time of extremely elevated risk for mental disorder in Bangladesh, as discussed in Chapter 74 of this textbook. The rates of postpartum depression in Bangladesh, estimated by several community studies at between 15 and 25 percent, reflect the intersection of biological vulnerability (hormonal changes of the perinatal period), psychological vulnerability (the developmental challenge of becoming a parent), and the specific social stresses that many Bangladeshi women face in the perinatal period, including intimate partner violence, dowry pressures, poverty, and inadequate social support.

Group IPT for postpartum depression, delivered by trained community health workers or nurses in primary care settings, has been tested in several South Asian countries with promising results. The group format is particularly valuable for postpartum depression because it addresses the

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social isolation that is itself both a risk factor for and a consequence of postpartum depression, providing women with peer support and normalization of their experience alongside specific therapeutic input. The adaptation of group IPT for Bangladeshi mothers requires attention to the specific interpersonal stressors of the postpartum period in this context: the relationship with the mother-in-law, who typically plays a central role in the management of the new mother's recovery period; the pressure associated with the gender of the newborn, with the birth of a daughter often a source of family tension; the demands of breastfeeding under physically and emotionally exhausting conditions; and the management of sexual and reproductive health in the context of restricted communication with partners about these subjects.

CHAPTER EIGHTY-NINE: FAMILY THERAPY AND SYSTEMIC APPROACHES IN BANGLADESH - WORKING WITH THE FUNDAMENTAL UNIT

89.1 The Family as the Primary Context of Mental Health in Bangladesh

In Bangladesh, the family is not simply the background against which individual mental health is managed. It is the primary context within which mental health is experienced, understood, expressed, and treated. A person in Bangladesh who develops a mental disorder is not an isolated individual seeking care; they are embedded in a web of family relationships that profoundly shape their experience of illness, their help-seeking behavior, the meaning they and others attach to their condition, and the resources available for their recovery. This family embeddedness has implications for every aspect of clinical practice: the assessment process must include the family context; treatment planning must engage with family members; and in many cases, the most effective intervention is not a treatment targeted at the identified patient alone but one that addresses the family system as a whole.

Western psychiatry, with its emphasis on the individual as the primary unit of clinical concern, has historically been ambivalent about the role of family in psychiatric treatment. The psychoanalytic tradition had a deeply problematic relationship with family involvement, reflected most notoriously in the "refrigerator mother" theory of autism (which attributed autism to cold and emotionally unavailable mothering) and in the "schizophrenogenic mother" concept (which attributed schizophrenia to pathological mothering). These theories, which are now thoroughly discredited, caused enormous harm to families who were already struggling with serious illness and who had the additional burden of being blamed for it. The legacy of these ideas has contributed to a general wariness in some quarters about engaging families in psychiatric treatment.

Contemporary evidence, however, strongly supports the engagement of families in the psychiatric care of their members, not because families cause mental illness (though family environments can certainly be risk factors) but because family involvement is associated with better treatment adherence, better outcomes, and lower rates of relapse across a range of serious mental disorders. Family psychoeducation for schizophrenia, family-based treatment for eating disorders in young people, and family therapy for adolescent depression are among the most evidence-based approaches in psychiatry.

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In Bangladesh, the importance of family involvement in psychiatric care goes beyond the evidence base from high-income countries. The family is typically the first and primary resource for a person with mental illness in Bangladesh: families provide care, financial support, social legitimacy, and the practical management of daily life. Without family support, a person with a serious mental disorder in Bangladesh has virtually no safety net. Engaging families in treatment is therefore not optional but essential.

89.2 Family Psychoeducation: The Evidence Base and Bangladesh Applications

Family psychoeducation is the best-evidenced family-based intervention in psychiatry, with a particularly strong evidence base in the management of schizophrenia and bipolar disorder. The core elements of family psychoeducation include education about the nature of the illness, its causes, and its treatment; training in the recognition of early warning signs of relapse; communication skills training to reduce expressed emotion and improve family functioning; and problem-solving skills training to manage the practical challenges of caregiving. Multiple randomized controlled trials and meta-analyses have established that family psychoeducation, delivered over a period of months to years in either individual or group format, substantially reduces the rate of relapse in schizophrenia compared to standard care.

The concept of expressed emotion (EE) is central to the evidence base for family psychoeducation. EE is a measure of the quality of family members' emotional attitudes toward the patient with a mental disorder, assessed through a structured interview that rates levels of critical comments, hostility, and emotional over-involvement. A high-EE family environment, characterized by frequent criticism, hostile remarks, and excessive involvement in the patient's life, is robustly associated with increased risk of relapse in schizophrenia and other serious mental disorders. Family psychoeducation aims to reduce expressed emotion by helping family members understand the nature of the illness (reducing criticism based on the misattribution of symptoms to laziness or bad character), developing more effective communication strategies, and building the family's collective coping capacity.

In Bangladesh, family psychoeducation faces specific challenges and opportunities. The high burden of caregiving on families in Bangladesh, who manage virtually all the care of people with serious mental illness without formal support, creates a context in which family members are typically exhausted, stressed, and sometimes at the end of their emotional resources. The critical comments and hostility that characterize high expressed emotion are often not expressions of fundamental hostility toward the patient but of frustration, fatigue, and despair in family members who have been caregiving for years without support. Family psychoeducation in Bangladesh must therefore include not only information and skills training but genuine support for family members as caregivers in their own right, acknowledging and validating their burden while providing practical strategies for managing it more effectively.

The group format for family psychoeducation is particularly valuable in Bangladesh because it addresses the social isolation of caregiving families, reduces the shame associated with having a family member with mental illness, and creates peer support networks among families in similar situations. Group psychoeducation programs for families of people with schizophrenia, piloted by NIMH and by several NGOs in Bangladesh, have shown promising results in terms of family

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burden reduction, expressed emotion, and patient outcomes. The development and scaling of these programs is a priority for the mental health system.

89.3 Structural Family Therapy and Strategic Approaches

The structural family therapy model, developed by Salvador Minuchin in the 1960s and 1970s, conceptualizes psychological symptoms as arising from disturbances in the structure and organization of the family system: inappropriate hierarchies, unclear or rigid boundaries between subsystems, enmeshment (excessive closeness and lack of appropriate boundaries between family members) or disengagement (excessive distance and emotional cut-off). Treatment aims to restructure the family, establishing clearer boundaries, more appropriate hierarchies, and more functional communication patterns.

The structural model has direct relevance to common family configurations in Bangladesh. The joint family household, in which multiple generations and nuclear family units share a living space under a common authority structure, creates specific structural challenges. The relationship between a daughter-in-law and her mother-in-law (shasuri) is a structurally important and frequently difficult one in Bangladesh: the newly married woman typically occupies the lowest position in the household hierarchy, with minimal authority, and the management of this structural inequality is a frequent source of tension and distress. The clinician working with a depressed young woman in this context can often identify structural family issues as central to the formulation and can work with the family system to create more functional arrangements.

The concept of triangulation, in which a third person (often a child or another family member) is drawn into a conflict between two others in a way that maintains the dyadic conflict while deflecting its direct expression, is frequently relevant in Bangladeshi family clinical work. The child whose behavior problems or school difficulties serve to unite warring parents in shared concern, diverting them from direct conflict with each other, is a familiar clinical presentation in any cultural context; it takes specific forms in Bangladesh that the clinician must learn to recognize and address.

89.4 Narrative Therapy and the Stories We Tell About Mental Illness

Narrative therapy, developed by Michael White and David Epston in Australia and New Zealand in the 1980s and 1990s, offers a distinctive approach to psychotherapy that is based on the understanding that human beings give meaning to their experiences through stories, and that the stories we tell about ourselves and our lives profoundly shape our sense of identity, possibility, and agency. Problems arise when people become trapped in "problem-saturated stories" that leave no room for alternative, more empowering accounts of who they are and what they are capable of.

The narrative approach is particularly well-suited to the Bangladeshi cultural context in several respects. The rich tradition of storytelling in Bangladeshi culture, including the oral traditions of jari gaan, pala gaan, and baul songs, as well as the narrative traditions embedded in religious texts and in everyday social conversation, provides cultural resources that narrative therapy can

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draw on. The emphasis on community witness, on having one's story heard and validated by others who matter, resonates with the relational and community-embedded character of Bangladeshi social life. And the attention to the political dimensions of problem-saturated stories, to the ways in which dominant cultural narratives about gender, caste, poverty, and mental illness can constrain a person's sense of identity and possibility, is particularly relevant in a society where structural inequalities are pervasive and deeply embedded in cultural narratives.

The narrative concept of "externalizing the problem," in which the symptom or problem is separated from the person's identity and given a name that allows it to be addressed without the patient being identified with or defined by it, can be a powerful clinical tool in the Bangladeshi context. Rather than "you are depressed" (which in the context of mental illness stigma can be devastating to identity), the therapist and patient together might understand the depression as a separate entity that has moved in and taken over the patient's life, an entity with specific characteristic tactics and effects that can be mapped, understood, and gradually resisted. This externalization, while it might appear superficially similar to the cultural practice of attributing illness to external spirits, is philosophically distinct: it does not literally locate the problem outside the person, but creates a rhetorical and clinical space for the patient to take a position in relation to the problem rather than being defined by it.

CHAPTER NINETY: MINDFULNESS-BASED INTERVENTIONS IN BANGLADESH - FROM BUDDHIST ROOTS TO CLINICAL APPLICATION

90.1 The Conceptual Foundations of Mindfulness

Mindfulness, in its contemporary clinical usage, refers to a mode of attention characterized by deliberate, non-judgmental awareness of present-moment experience, including thoughts, emotions, physical sensations, and perceptions. This definition, developed by Jon Kabat-Zinn from his study of Buddhist meditation in the 1970s, has been operationalized into a range of clinical interventions that have accumulated an extensive evidence base over the past four decades.

The philosophical foundations of mindfulness lie in Buddhist contemplative tradition, specifically in the Pali concept of sati (awareness or remembrance), which is described in the Satipatthana Sutta as a path to liberation from suffering. The Buddha's four foundations of mindfulness, mindfulness of the body, of feelings, of the mind, and of mental objects, provide a systematic framework for the cultivation of non-reactive awareness that bears strong structural similarities to the practices taught in modern clinical mindfulness programs. The understanding of suffering as arising from the tendency to cling to pleasant experiences and to push away unpleasant ones, and the cultivation of equanimity through the practice of simply observing experience as it arises and passes without engaging in these reactive patterns, is a psychological insight of profound depth and clinical relevance.

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It is important to acknowledge, as Kabat-Zinn himself has consistently done, that mindfulness as a clinical intervention is a secular adaptation of a contemplative tradition that has rich spiritual depth extending far beyond what clinical programs can or do teach. This secularization has enabled mindfulness to be studied and applied across cultural and religious boundaries, but it also raises legitimate questions about whether something important is lost in the translation from contemplative practice to clinical intervention.

For Bangladesh, the question of the cultural relationship to mindfulness is complex. While Bangladesh is a predominantly Muslim country without a significant Buddhist population (with the notable exception of the Buddhist communities in the Chittagong Hill Tracts), the contemplative dimensions of Islam are deeply relevant to the psychological functions that mindfulness serves. The practice of dhikr (remembrance of God through repetitive invocation of divine names), the meditative dimensions of salat (the five daily prayers, particularly in the experience of focused attention and prostration), and the concentrated attention cultivated in Quranic recitation all share structural features with mindfulness practice: the deliberate direction of attention, the repeated return of attention to a chosen object when the mind wanders, and the cultivation of a non-reactive, attentive presence.

The development of mindfulness-based interventions that draw explicitly on Islamic contemplative practices, rather than on the secular adaptation of Buddhist meditation, represents a promising approach to making mindfulness more culturally accessible in the Bangladeshi context. Several researchers in Malaysia and Turkey, where Muslim-majority populations have engaged with mindfulness research, have developed explicitly Islamic mindfulness adaptations that frame the practice within Islamic theological concepts and use Islamic contemplative practices as the vehicle for mindfulness cultivation. While such adaptations have not yet been systematically tested in Bangladesh, they represent an important direction for future research.

90.2 The Evidence Base for Mindfulness-Based Interventions

The clinical evidence for mindfulness-based interventions is now extensive. Mindfulness-based stress reduction (MBSR), the original eight-week mindfulness program developed by Kabat-Zinn at the University of Massachusetts Medical School in 1979, has been shown in multiple studies to reduce psychological distress, anxiety, depression, and chronic pain in a range of populations, and to produce measurable changes in brain structure and function in regions associated with attention, emotional regulation, and self-referential processing.

Mindfulness-based cognitive therapy (MBCT), which integrates mindfulness practices with elements of CBT specifically designed to prevent depressive relapse, is now recommended as a treatment for recurrent depression in the guidelines of multiple health authorities including NICE in the United Kingdom. Multiple meta-analyses confirm that MBCT reduces the rate of depressive relapse in people with three or more previous episodes by approximately 40 to 50 percent compared to treatment as usual, an effect size that is clinically very significant.

Mindfulness-based relapse prevention (MBRP), adapted from MBCT for the prevention of substance use relapse, has shown efficacy in reducing relapse rates and craving in people

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recovering from substance use disorders, with particularly promising results for alcohol and stimulant use disorders. Given the substantial and growing problem of substance use in Bangladesh, particularly yaba and opioid use, MBRP represents a potentially important addition to the therapeutic toolkit, though its implementation in Bangladesh would require significant adaptation and testing.

One important limitation of the mindfulness evidence base is that most of the research has been conducted in high-income Western countries, with participants who are relatively affluent, educated, and familiar with the concept of contemplative practice. The generalizability of this evidence to Bangladesh, where levels of formal education are lower, familiarity with meditation or contemplative practice in a clinical context is limited (though religious contemplative practice is widespread), and the cultural frameworks within which practice would be understood are different, cannot be assumed without direct testing. The 2024 realist review of mindfulness-based interventions in low socioeconomic settings found that existing evidence was scant and that adaptations for low-resource contexts required systematic attention to implementation conditions, participant understanding, and cultural congruence.

90.3 Brief, Culturally Adapted Mindfulness in Bangladesh: Toward a Practical Approach

Despite the limitations noted above, several elements of mindfulness-based practice can be adapted for use in the Bangladeshi context in ways that are both culturally appropriate and practically feasible.

Breathing awareness practices, which are at the core of most mindfulness programs, are universally accessible and require no equipment or specific cultural background. The simple instruction to focus attention on the sensation of breathing, to notice when the mind wanders, and to gently return it to the breath, is comprehensible and practicable regardless of cultural background. These practices can be framed in explicitly Islamic terms, as a form of dhikr or as a practice of muraqaba (watchfulness, a concept from Sufi Islamic tradition), without distorting either the practice or the theological framework.

Body scan practices, which involve systematically directing attention to different parts of the body and noticing sensations without trying to change them, are particularly relevant in a population where physical symptoms are the primary presentation of psychological distress. The cultivation of non-judgmental awareness of physical sensations, including the physical manifestations of anxiety, depression, and grief, can be a powerful tool for helping patients develop a different relationship to these symptoms, experiencing them as passing phenomena rather than as permanent features of their identity or as evidence of serious disease.

Loving-kindness meditation (metta), which involves the systematic cultivation of goodwill toward oneself and others through a series of phrases or intentions directed at progressively widening circles of beings, has strong resonance with Islamic concepts of rahma (divine mercy) and shafaqat (compassion) and could be adapted for use in a Bangladeshi clinical context in a way that is explicitly framed within Islamic values. The cultivation of self-compassion, specifically the extension of the same compassion to oneself that one might extend to a suffering friend, is

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particularly important in a population where self-blame and shame are common features of psychological distress.

CHAPTER NINETY-ONE: THIRD-WAVE THERAPIES IN BANGLADESH - DBT, ACT, SCHEMA THERAPY, AND RELATED APPROACHES

91.1 Dialectical Behavior Therapy: Theory and Bangladesh Relevance

Marsha Linehan developed DBT in the late 1980s specifically to address the treatment challenge of chronically suicidal patients with borderline personality disorder, a group that had been poorly served by existing treatments and that presented with the combination of intense emotional dysregulation, impulsive self-harm, and profound interpersonal difficulties that made standard CBT insufficient. DBT is grounded in a biosocial theory of borderline personality disorder that proposes that the condition arises from the interaction of a biologically based emotional sensitivity (possibly reflecting dysregulation of the amygdala and related systems) with an invalidating environment (an early caregiving environment that persistently fails to acknowledge and appropriately respond to the child's emotional experience).

The treatment is organized around a dialectical philosophy that holds that opposites can be simultaneously true and that therapeutic progress involves the synthesis of apparently contradictory positions. The central dialectic in DBT is between acceptance (the patient is accepted as they are, their experience is validated, and their suffering is real) and change (the patient must also change if they are to have a life worth living). This dialectical balance is maintained across all elements of the treatment, including individual therapy, skills training groups, telephone coaching (in which the patient can call the therapist for coaching in crisis situations), and therapist consultation teams.

DBT skills training addresses four domains: core mindfulness (the foundation of all other skills, cultivating present-moment awareness), distress tolerance (skills for surviving crisis situations without making them worse, including the TIPP skills of temperature, intense exercise, paced breathing, and progressive muscle relaxation, and the ACCEPTS distraction skills), emotion regulation (skills for understanding, monitoring, and modifying emotional responses), and interpersonal effectiveness (skills for asking for what one needs, saying no, and maintaining relationships while maintaining self-respect). These skills are taught in a structured, group-based format over approximately six months, with homework between sessions and the expectation of practice in daily life.

In Bangladesh, the clinical presentations that DBT was developed to address are certainly present. Chronic suicidal behavior and self-harm, emotionally dysregulated interpersonal relationships, and significant impulsive behaviors are common in the clinical populations seen in Bangladeshi psychiatry. The extremely high rates of suicidal behavior among young women in Bangladesh, documented in Chapter Seventy-Nine, reflect in part the intersection of emotional dysregulation with an invalidating social environment that denies women's experience, dismisses their distress, and offers no legitimate routes for the expression of anger or the assertion of

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needs. This biosocial framing of suicidality in Bangladeshi women, while it does not map perfectly onto Linehan's original model (which was developed in a very different cultural and socioeconomic context), provides a framework that acknowledges both the individual's psychological vulnerability and the social structures that shape and maintain it.

Full DBT, with its requirement for weekly individual therapy, skills groups, phone coaching, and therapist consultation teams, is not currently feasible at scale in Bangladesh. However, adapted versions of the DBT skills curriculum, delivered in group format and focused on the most practical and culturally adaptable skills, particularly mindfulness, distress tolerance, and interpersonal effectiveness, represent a potentially valuable addition to the Bangladeshi therapeutic toolkit. Several pilot programs are beginning to explore this possibility in the context of suicide prevention and self-harm reduction.

91.2 Acceptance and Commitment Therapy: The Science of Psychological Flexibility

ACT, as described in Chapter Eighty-Five, is grounded in a scientific framework called relational frame theory (RFT), which provides an account of how human language and cognition create both extraordinary human capabilities and characteristic forms of suffering. The central insight is that human language and cognition, which allow us to reason, plan, remember, and imagine, also allow us to respond to symbolic representations of threatening events as if those events were actually happening. A person who fears rejection can suffer from the imagined possibility of rejection just as intensely as from an actual rejection, and can organize their entire life around avoiding this imagined possibility in ways that severely limit their range of experience and their ability to pursue what they value.

ACT proposes that psychological health consists not in the absence of difficult thoughts and emotions but in the capacity to have those thoughts and emotions without being dominated by them, while continuing to act in ways that are aligned with one's deeply held values. This capacity, called psychological flexibility, is the opposite of psychological rigidity: the pattern of being dominated by difficult thoughts (cognitive fusion), struggling against difficult emotions (experiential avoidance), and being unable to act in accord with values as a result.

The six core processes that ACT targets are: defusion (learning to see thoughts as thoughts rather than as facts), acceptance (opening up to difficult thoughts and emotions rather than struggling against them), present-moment awareness (being in contact with what is actually happening now rather than being lost in thoughts about the past or future), self-as-context (developing a stable sense of self that is not threatened by the contents of thoughts and emotions), values clarification (identifying what really matters in one's life), and committed action (taking steps toward valued ends even in the presence of difficult thoughts and emotions).

For Bangladesh, ACT's transdiagnostic character and its emphasis on values and committed action are particularly valuable. The concept of values, of what genuinely matters to a person beyond the immediate demands of managing symptoms, connects directly to the Islamic concept of niyyah (intention) and to the broader ethical frameworks within which Bangladeshi people understand the purposes of their lives. An ACT-based conversation about values with a depressed Bangladeshi woman might explore her aspirations for her children's education, her

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commitment to her faith, her desire to contribute to her community, and the way in which depression has constrained her ability to act in accordance with these values, in a way that is simultaneously psychologically precise and culturally resonant.

The emphasis on acceptance in ACT also requires careful cultural adaptation. Acceptance in ACT is not resignation or passive submission to unjust circumstances; it is the willingness to experience difficult internal events (thoughts, emotions, memories) without unnecessary struggle, freeing energy for valued action. This distinction is important in the Bangladeshi context, where acceptance and patience (sabr) are deeply valued Islamic virtues, but where there is also a risk that these values are misappropriated to maintain the passive acceptance of unjust social conditions. The ACT-trained clinician in Bangladesh must be able to navigate this distinction clearly: supporting the acceptance of unchangeable internal experiences while encouraging values-based action to change changeable external circumstances.

91.3 Schema Therapy: Early Maladaptive Schemas in the Bangladeshi Context

Schema therapy, developed by Jeffrey Young as an extension of CBT for patients whose difficulties were not adequately addressed by standard cognitive therapy, particularly those with personality disorders and chronic depression, proposes that early adverse experiences in childhood create stable cognitive-affective structures called early maladaptive schemas (EMS) that shape the individual's perceptions, emotions, and behaviors across a wide range of situations throughout life. These schemas are understood as attempts by the developing child to adapt to an environment that fails to meet their core emotional needs, including the needs for safety and security, for autonomy and competence, for validation and expression of emotions, for spontaneity and play, and for appropriate limits and self-control.

Young identified eighteen early maladaptive schemas organized into five broad domains. The abandonment/instability schema, for example, reflects the belief that significant others are unreliable and will eventually leave or be unavailable. The subjugation schema reflects the belief that one must suppress one's own needs, desires, and emotions in order to maintain relationships or avoid punishment. The self-sacrifice schema reflects the excessive focus on meeting the needs of others at the expense of one's own needs. Several of these schemas, while present in all cultural contexts, are likely to be particularly prevalent in Bangladesh given specific patterns of early experience: the subjugation and self-sacrifice schemas in women who have been socialized from early childhood to prioritize family needs over their own, the abandonment schema in individuals who experienced early parental loss or inconsistent caregiving, and the defectiveness/shame schema in individuals who grew up in environments where they were subjected to frequent criticism, comparison with siblings, or exposure to domestic violence.

Schema therapy uses a range of techniques to address these early maladaptive schemas: cognitive techniques to examine and challenge schema-driven beliefs, experiential techniques including imagery rescripting (in which the patient revisits early experiences in imagination and provides the child in the image with what they needed but did not receive), and the therapeutic relationship itself as a vehicle for "limited reparenting" that provides within the therapeutic encounter some of the corrective emotional experiences that were missing in early development. Schema therapy requires a longer-term, more intensive therapeutic relationship than standard

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CBT and is therefore less immediately adaptable for task-sharing delivery. However, elements of schema-based understanding, particularly the identification of early maladaptive schemas and the psychoeducation about their origins and effects, can be incorporated into briefer forms of psychotherapy.

CHAPTER NINETY-TWO: SUPPORTIVE PSYCHOTHERAPY, COUNSELING, AND CRISIS INTERVENTION IN BANGLADESH

92.1 The Spectrum of Psychological Support: From Counseling to Formal Psychotherapy

Not all psychological support constitutes formal psychotherapy in the technical sense. There is a spectrum of psychological helping that ranges from informal emotional support provided by family, friends, and community members through structured counseling provided by trained counselors to the more specialized forms of formal psychotherapy described in previous chapters. Understanding this spectrum, and the role of each level within it, is essential for thinking about the organization of psychological care in Bangladesh.

At the base of the spectrum is the informal emotional support that people receive from their social networks: the neighbor who listens while a woman describes her troubles, the family elder who provides wise counsel, the maulana who offers spiritual guidance and prayer. While this informal support is not therapy, it is profoundly important: multiple studies have confirmed that social support is one of the most robust protective factors for mental health across a wide range of conditions and populations. The erosion of traditional social support structures, associated with urbanization, migration, and the breakdown of extended family networks, represents a genuine mental health risk for Bangladesh.

Counseling occupies the middle of the spectrum: a structured, somewhat more formal form of psychological support that goes beyond informal social support but does not necessarily involve the specific theoretical frameworks and technical interventions of formal psychotherapy. Counseling emphasizes the core skills identified by Carl Rogers as the necessary and sufficient conditions for therapeutic change: empathy (accurate understanding of the client's experience from the client's own perspective), unconditional positive regard (accepting and valuing the client without judgment), and genuineness or congruence (the counselor being authentic and present rather than maintaining a professional facade). These skills are not the exclusive property of formally trained therapists; they can be taught, to varying degrees, to a wide range of health and social care workers, community volunteers, and peer supporters.

Crisis intervention is a specific form of psychological support aimed at stabilizing a person in acute psychological crisis and preventing harm. The principles of crisis intervention, developed originally in the context of suicide prevention but applicable to a wide range of crisis situations, include rapid engagement, active listening, assessment of safety, problem-solving focused on the immediate crisis, mobilization of social support, and connection to appropriate follow-up care. The Kaan Pete Roi (Let Me Listen) emotional support telephone helpline in Bangladesh, modeled on the Samaritans model of the United Kingdom, provides a form of crisis intervention

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to people in distress through telephone contact. The development and scaling of crisis intervention services is an urgent priority in Bangladesh given the high rates of suicidal behavior.

92.2 Psychological First Aid: The Emergency Response Framework

Psychological First Aid (PFA) is a framework for providing initial psychological support to people in the immediate aftermath of a disaster, emergency, or traumatic event. It was developed jointly by the WHO and other international organizations as a pragmatic, evidence-informed approach that can be implemented by a range of responders, including health workers, disaster relief workers, community volunteers, and others who may encounter people in acute distress in the aftermath of traumatic events.

PFA does not attempt to provide therapy in the acute phase of a disaster response; it recognizes that most people exposed to disasters will recover naturally over time without formal mental health intervention, and that the most helpful immediate response is to provide practical support, safety, information, and human connection. The core actions of PFA are: look (identifying who needs support and assessing the situation safely), listen (making contact, giving the person time to tell their story, offering empathy and understanding), and link (providing practical information and support, connecting people with additional resources, and facilitating social connection).

In Bangladesh, where catastrophic cyclones, floods, and other disasters are recurring features of the national experience, the systematic training of disaster responders in PFA is an important preparedness measure. The WHO South-East Asia Regional Office has promoted PFA training in Bangladesh, and several NGOs have incorporated PFA training into their disaster preparedness programs. The integration of PFA training into the training of community health workers, disaster management officials, and first responders would significantly enhance the country's capacity to respond to the mental health consequences of the disasters that Bangladesh faces repeatedly.

92.3 Supportive Psychotherapy: The Undervalued Foundation

Supportive psychotherapy, despite its central importance in clinical practice, is among the most undertheorized and underresearched forms of psychotherapy. Partly this reflects the fact that supportive psychotherapy, which aims not to change the patient's fundamental psychological structure but to help them function more effectively and comfortably within their existing capacities, lacks the dramatic appeal of more ambitious and technically complex forms of treatment. Partly it reflects the fact that it is difficult to manualize and study in randomized controlled trials in the way that more structured therapies can be. And partly it reflects a tendency to regard supportive psychotherapy as what therapists do when they cannot do "real" therapy, as a consolation prize rather than as a legitimate and valuable treatment in its own right.

In fact, several randomized controlled trials have compared supportive psychotherapy directly with CBT or other structured therapies and found it to be comparably effective for many

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conditions. The evidence suggests that for patients with moderate levels of psychological difficulty and good social functioning, supportive psychotherapy may be as effective as CBT, while for patients with more severe and specific conditions (OCD, PTSD, specific phobia), the specific techniques of CBT add value beyond what supportive therapy alone achieves.

In Bangladesh, where the workforce for formal psychotherapy is extremely limited and where the cultural norms around help-seeking may make a formal structured therapy approach difficult to initiate, supportive psychotherapy represents the most immediately scalable form of psychological intervention. Training primary care physicians, nurses, and community health workers in basic supportive psychotherapy skills, including empathic listening, normalization, problem-solving, and the facilitation of coping, would extend psychological care to a much larger proportion of the population than is currently receiving any form of psychological support.

CHAPTER NINETY-THREE: TASK-SHARING AND COMMUNITY-BASED PSYCHOLOGICAL INTERVENTIONS - THE PATHWAY TO SCALE

93.1 The Global Mental Health Movement and the Task-Sharing Revolution

The central insight of the global mental health movement, as articulated in the landmark Lancet series on global mental health in 2007 and elaborated in subsequent research, policy advocacy, and implementation, is that the massive treatment gap for mental disorders in low- and middle-income countries cannot be closed by training more mental health specialists alone. Even if all currently planned expansion in psychiatry training in Bangladesh were to be implemented, the country would still have far too few psychiatrists, psychologists, and psychiatric social workers to meet the mental health needs of its population within any realistic time frame.

The task-sharing solution proposes to address this gap by training non-specialist health workers, including primary care physicians, nurses, community health workers, lay counselors, and trained peer supporters, to deliver simplified, evidence-based psychological and psychosocial interventions for common mental disorders under the supervision of mental health specialists. This approach is not a second-best alternative to specialist care; it is a different and complementary approach to health system organization that has been shown in multiple randomized controlled trials to produce meaningful clinical benefits.

The evidence base for task-sharing mental health interventions in low- and middle-income countries is substantial and growing. The PRIME (Programme for Improving Mental Health Care) study, conducted across five low-income countries including India, demonstrated that training primary care workers in mhGAP-based assessment and management of depression, psychosis, and alcohol use disorder, with supervision from mental health specialists, increased the coverage of mental health care and improved patient outcomes compared to usual care. The Friendship Bench project in Zimbabwe, in which grandmothers were trained to deliver problem-solving therapy to individuals with common mental disorders under a mango tree, demonstrated that a brief, simple psychological intervention delivered by community volunteers could produce

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significant improvements in depression and anxiety comparable to those achieved by specialist-delivered treatments. The Healthy Activity Program (HAP) in India, which trained lay workers to deliver behavioral activation for depression in primary care settings, showed that brief, task-shared behavioral activation was as effective as full CBT for depression in this context.

93.2 The mhGAP Intervention Guide in Bangladesh: Implementation Experience and Lessons

The WHO's Mental Health Gap Action Programme (mhGAP) intervention guide, described in Chapter Five of this textbook, provides a practical framework for training and supporting non-specialist health workers in the assessment and management of priority mental disorders. The mhGAP-IG version 2.0, published in 2016 and updated in subsequent years, covers depression, psychosis, bipolar disorder, epilepsy, intellectual and developmental disabilities, dementia, alcohol and drug use disorders, self-harm and suicide, and child and adolescent mental health conditions. For each condition, it provides simple assessment algorithms, management guidelines, and evidence-based counseling strategies that can be delivered by trained non-specialist health workers.

The implementation of mhGAP in Bangladesh has been gradual and uneven. Pilot programs have been conducted in several districts, typically funded by international organizations including the WHO, UNICEF, and various bilateral donors. These pilots have demonstrated the feasibility of training primary care workers in mhGAP-based mental health assessment and management, and have shown improvements in the detection and treatment of common mental disorders in primary care settings. However, the scaling of these pilots into a comprehensive national system has not yet been achieved, reflecting barriers including inadequate funding, insufficient political prioritization, lack of an established supervision structure for mhGAP-trained workers, and the difficulty of sustaining training programs and supervision over time.

The 2025 systematic review of mhGAP adaptations in low- and middle-income countries, published in the International Journal of Mental Health Systems, found that mhGAP implementation consistently requires local adaptation, including modification of language, examples, and assessment approaches to fit local cultural contexts, adjustment of the management protocols to account for local treatment resources (particularly the availability of specific medications), and adaptation of the training approach to fit the educational background and prior knowledge of the health workers being trained. These adaptations are not simply cosmetic modifications to the original guide; they involve substantive engagement with the local cultural and health system context, and their quality and adequacy are important determinants of implementation success.

Several specific adaptations are needed for effective mhGAP implementation in Bangladesh. The assessment instruments used in the mhGAP guide, including the PHQ-9 for depression and the GAD-7 for anxiety, have been translated into Bengali and validated for use in Bangladeshi populations, but their performance characteristics in rural, low-literacy populations require ongoing monitoring and calibration. The management protocols need to be adapted to reflect the specific medications and dosing practices used in Bangladesh, including the continued predominance of first-generation antipsychotics and tricyclic antidepressants in many public sector settings. The counseling strategies recommended in mhGAP need to be delivered in a style

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that is culturally appropriate for Bangladesh, using language, examples, and relational approaches that fit the local context.

93.3 The Community Health Worker: Bangladesh's Untapped Mental Health Resource

Bangladesh has one of the most extensive community health worker (CHW) networks in Asia. The shasthya kormi (SK) and shasthya shabika (SS) networks, established through the government's community health system and through the large CHW programs of organizations like BRAC and SAJIDA Foundation, together reach a very large proportion of the rural population. These workers, predominantly women, make regular home visits to households in their designated areas, providing basic health education, referrals, and support for maternal and child health, family planning, immunization, and increasingly, non-communicable disease management.

The potential of this existing CHW network for mental health is significant. Community health workers are trusted, known members of their communities, with relationships that facilitate the kind of trust and disclosure that is essential for engaging with mental health issues. They reach people who would never attend a formal health facility for mental health care. They can monitor the well-being of vulnerable individuals over time, providing a form of continuous community-based surveillance that specialist-based systems cannot replicate. And their cost per contact is dramatically lower than that of specialist care.

Several programs have demonstrated the feasibility of integrating mental health into CHW roles in Bangladesh. The Friendship Bench model, adapted from Zimbabwe, has been piloted by a Bangladeshi NGO with training of local community volunteers in problem-solving therapy for common mental disorders. BRAC's community health workers have been provided with brief training in the recognition of common mental disorders and in facilitated referral to mental health specialists, with promising results in terms of detection and care linkage. The SAJIDA Foundation's Proshanti program, which provides community-based mental health care in rural Bangladesh, has been recognized by WHO's South-East Asia Regional Office as a model for community-based mental health care.

The scale-up of mental health integration into the national CHW system would require, at minimum: the inclusion of mental health content in the core CHW training curriculum; the development of simple, validated mental health assessment tools that can be used by workers with limited formal education; a clear protocol for when CHWs should refer to higher-level care; a supervision structure connecting CHWs to qualified mental health professionals who can provide case consultation and support; and a functional referral pathway that ensures that people referred by CHWs can actually access the specialist care they need. Each of these requirements represents a significant organizational and resource challenge, but none is in principle impossible given adequate political will and investment.

93.4 The Stepped Care Model: Organizing Psychological Care for a Population

The stepped care model provides a framework for organizing psychological care in a way that ensures that people receive the least intensive and least costly level of care that is effective for

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their needs, with more intensive interventions reserved for those who do not respond to lower-intensity approaches. This model, widely used in high-income country mental health systems, has been adapted for use in low-income country contexts, including in Bangladesh.

In a stepped care model for Bangladesh, the first step would consist of self-help resources (written materials, digital interventions, peer support), with brief psychoeducation and guided self-help provided by CHWs. People who do not respond to this first step would move to the second step, consisting of structured psychological interventions (behavioral activation, problem-solving therapy, brief IPT) delivered by trained primary care workers under supervision. Those who do not respond at the second step would move to the third step, involving specialist-delivered psychological therapies (full CBT, IPT, family therapy) alongside psychiatric medication where indicated. People with severe and complex presentations requiring intensive specialist care would form the fourth step, managed at district or tertiary psychiatric facilities.

This hierarchical organization of care ensures that the limited specialist workforce is focused where its expertise is most needed, while significantly expanding the reach of psychological care through the primary care and community health levels. The collaborative care model, in which mental health specialists provide consultation, supervision, and caseload review for primary care teams rather than providing direct care to every patient, is an efficient way of integrating the stepped care approach into the existing primary care infrastructure.

CHAPTER NINETY-FOUR: DIGITAL MENTAL HEALTH AND TECHNOLOGY-ASSISTED PSYCHOLOGICAL THERAPIES IN BANGLADESH

94.1 The Digital Revolution in Mental Health: Promise and Peril

The rapid expansion of smartphone access, internet connectivity, and digital literacy in Bangladesh over the past decade has created new possibilities for mental health care that did not exist even five years ago. Bangladesh had approximately 170 million mobile phone connections as of 2024, with smartphone penetration particularly rapid among younger urban populations. Social media platforms, digital communication tools, and increasingly sophisticated mobile applications have become central to the daily lives of millions of Bangladeshis, creating both new risks (as discussed in Chapter 157 on social media and adolescent mental health) and new opportunities for mental health promotion, prevention, and treatment.

Digital mental health interventions span a wide range of modalities and approaches. At one end of the spectrum are simple, static digital mental health resources: websites and social media pages providing mental health information, psychoeducation content, and links to services. At the other end are fully interactive, artificial intelligence-powered conversational agents that engage users in structured therapeutic conversations modeled on CBT or other evidence-based approaches. Between these extremes lie a diverse range of applications including structured self-help programs delivered via smartphone apps, online peer support communities, telepsychiatry and telepsychology (video or telephone-based consultation with mental health specialists), and

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hybrid programs that combine digital content with human support from trained counselors or mental health workers.

The potential advantages of digital mental health interventions in Bangladesh are considerable. They can be accessed at any time and any place, removing the geographical barriers that prevent rural populations from accessing specialist mental health care. They can be highly scalable, reaching large numbers of people simultaneously at low marginal cost. They can provide a degree of anonymity that reduces the stigma barrier to help-seeking. They can be personalized to the individual user's needs and preferences in ways that are difficult to achieve in face-to-face programs. And they can generate rich data about patterns of use, engagement, and outcomes that can be used to continuously improve the intervention.

However, digital mental health also carries significant risks and limitations that require careful attention. The evidence base for most digital mental health interventions is much weaker than for face-to-face psychotherapy: many apps available in Bangladesh and globally have been developed without evidence-based content, without clinical oversight, and without testing in relevant populations. The engagement and adherence problem is severe: most people who download mental health apps do not use them beyond the first few sessions, with a large majority abandoning the app within the first two weeks. The risk of harm from poorly designed digital mental health interventions, including the reinforcement of rumination, the provision of inaccurate information, and the failure to provide adequate support in crisis situations, is real and inadequately regulated. And the digital divide, which in Bangladesh tracks closely with education, income, gender, and urban-rural location, means that digital interventions are most accessible to the people who are already most advantaged in terms of access to mental health care.

94.2 Evidence-Based Digital Interventions: What Works and What Bangladesh Needs

The evidence base for digital mental health interventions in low- and middle-income countries is considerably smaller than for high-income country settings, though it is growing. Several studies have tested digital mental health interventions in India, Pakistan, and other South Asian countries, with mixed but generally promising results.

Internet-delivered CBT (iCBT) programs, which deliver structured CBT content through a web-based platform with or without minimal therapist support, have the most extensive evidence base of any digital mental health modality. Multiple systematic reviews and meta-analyses have confirmed that iCBT is effective for depression and anxiety disorders in high-income country populations, with effect sizes comparable to face-to-face CBT for some conditions when delivered with therapist guidance. However, adherence is consistently lower than for face-to-face therapy, and the evidence specifically from South Asian or low-income country populations is limited.

For Bangladesh, the most immediately relevant digital mental health applications are: mobile phone-based psychoeducation and self-management tools for common mental disorders, delivered via SMS or simple app interfaces that do not require high-speed internet; telepsychiatry and telepsychology platforms that enable consultation with specialists in Dhaka

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or divisional headquarters from district-level health facilities; and digital training and supervision platforms for community health workers and primary care providers, enabling regular case consultation, skills refreshment, and quality monitoring at low cost. The last of these, specifically the use of digital technology to support the task-sharing mental health workforce rather than to replace specialist care entirely, is particularly promising and underexplored.

The development of culturally appropriate digital mental health content in Bangla is an immediate and practical priority. Most available digital mental health apps are in English and are culturally designed for Western populations. The development of Bangla-language mental health apps with culturally adapted content, including psychoeducation, mood monitoring, behavioral activation support, and crisis resources, represents an achievable goal that could significantly expand access to mental health support for Bangladeshi users.

94.3 Artificial Intelligence and the Future of Digital Mental Health in Bangladesh

The rapid development of artificial intelligence technologies, including large language models capable of sophisticated conversational interaction, has created both excitement and significant concern in the mental health field. Several AI-powered conversational agents, sometimes called chatbots, have been developed and tested as mental health support tools, including Woebot (based on CBT), Wysa (based on a combination of CBT and mindfulness), and several others. Early studies of these tools have shown promising results in terms of engagement and self-reported mental health outcomes, though the evidence base remains limited and the risk of harm in high-risk situations (such as acute suicidal crisis) is a serious concern.

In Bangladesh, AI-powered mental health tools face specific challenges. The quality of Bangla language processing in available large language models remains considerably lower than for English, reflecting the underrepresentation of Bangla in the training datasets of most models. Cultural calibration of AI mental health tools for the Bangladeshi context, ensuring that they respond appropriately to culturally specific expressions of distress, religious frameworks, and social contexts, would require significant investment in cultural adaptation and safety testing. And the regulatory framework for AI health tools in Bangladesh is essentially non-existent, creating significant risks of unregulated, untested AI mental health tools entering the market.

At the same time, the potential of AI-assisted mental health support in Bangladesh, where the specialist workforce is so severely limited, is genuinely significant. An AI-powered tool that could provide basic psychoeducation, mood monitoring, behavioral activation support, and crisis triage to users who have no other access to mental health support could meaningfully reduce suffering at population scale, even if it provides only a fraction of what specialist care could offer. The development and testing of such tools, with rigorous attention to safety, cultural adaptation, and equity of access, is an important area for future investment.

94.4 Case Study 94.1: Telepsychiatry in a District Hospital in Bangladesh

Dr. Aminul is a general physician at the upazila health complex in a rural district approximately 250 km from Dhaka. He has received basic training in mhGAP assessment and management of

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common mental disorders, but he frequently encounters patients with presentations that exceed his competence and for whom he would like specialist consultation. Previously, his only option was to refer the patient to Dhaka, a journey that would take most of a day, require significant expense, and result in long waits at an already-overstretched outpatient clinic.

Following the establishment of a telepsychiatry link between his health complex and NIMH in Dhaka, Dr. Aminul can now arrange video consultation with a psychiatrist at NIMH within a day or two of identifying a patient who needs specialist assessment. In a typical week, he conducts two or three telepsychiatry consultations.

One recent case involved a 45-year-old farmer, Rashed, who had developed a psychotic illness following a period of severe financial stress. Rashed's family had brought him to the health complex after he had become agitated and had barricaded himself in his room, saying that neighbors were sending electrical currents through the walls to harm him. He had not slept for four nights. Dr. Aminul recognized the presentation as psychotic and initiated haloperidol at a low dose, but was uncertain about the appropriate dose and management plan and concerned about safety in the community setting.

The telepsychiatry consultation with the NIMH psychiatrist allowed for a systematic assessment of Rashed's mental state, a review of his history, and the development of a specific management plan. The psychiatrist confirmed the diagnosis of acute psychotic episode likely in the context of schizophrenia, adjusted the medication regimen, provided guidance on management of agitation and safety monitoring, and arranged a follow-up telepsychiatry consultation for two weeks later. The family was provided with psychoeducation about schizophrenia by Dr. Aminul, informed by materials provided through the telepsychiatry platform. Rashed's psychosis responded well to the adjusted medication regimen, and he was able to remain at home with his family rather than requiring the long and disruptive journey to Dhaka for hospitalization.

This case illustrates the potential of telepsychiatry to extend specialist expertise to settings that would otherwise lack it, to support the capacity of primary care workers to manage more complex presentations, and to prevent the disruption to patients and families associated with long-distance referrals.

CHAPTER NINETY-FIVE: COMBINING PSYCHOLOGICAL AND PHARMACOLOGICAL TREATMENTS - THE SCIENCE AND PRACTICE OF INTEGRATION

95.1 The Combination Question: When Is More Better?

The question of whether combining psychotherapy with medication produces better outcomes than either treatment alone is among the most practically important questions in psychiatric therapeutics. The intuitive answer, that more is better, is not always supported by the evidence, and the clinical picture is considerably more nuanced than a simple additive model would suggest.

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For moderate to severe depression, the most extensively studied condition in this regard, the evidence supports a combination approach. A comprehensive meta-analysis by Cuijpers and colleagues, published in the World Psychiatry journal, found that the combination of antidepressants and psychotherapy was significantly more effective than either treatment alone for moderate to severe depression, with an advantage over monotherapy that was modest but clinically meaningful. The advantage of combination was greatest for more severe depression and for patients with chronic depression, where psychotherapy alone is less effective and where the additional benefit of medication is most pronounced.

For specific anxiety disorders, the picture is more complicated. For panic disorder, the combination of CBT and medication produces acute outcomes that are comparable to or somewhat better than either alone, but follow-up data suggest that the gains of CBT tend to be more durable than those of medication, and that patients who receive combined treatment may be somewhat more likely to relapse after medication discontinuation than those who have received CBT alone. For OCD, the combination of exposure and response prevention (ERP) with serotonin reuptake inhibitors is more effective than either alone for many patients, though for patients who respond fully to ERP alone, the addition of medication may not be necessary.

For schizophrenia, the combination of antipsychotic medication with psychosocial interventions, including family psychoeducation, supported employment, social skills training, and CBT for psychosis, produces better functional outcomes than medication alone. This finding, robust across multiple studies and guidelines, reflects the understanding that medication manages psychotic symptoms but does not in itself restore the social functioning, interpersonal skills, and quality of life that schizophrenia disrupts. Psychosocial interventions address these dimensions in ways that medication alone cannot.

95.2 Sequencing Treatments: When to Start What

The question of sequencing, when to start psychological treatment, when to start medication, and in what order, is clinically important and does not have a single universal answer. Several principles can guide clinical decision-making.

For mild to moderate depression in primary care settings in Bangladesh, where access to psychological treatment is extremely limited, the mhGAP guidelines recommend that psychological treatment (behavioral activation, problem-solving therapy) should be tried before medication, reserving antidepressants for those who do not respond to psychological approaches or who have moderately severe to severe depression. This recommendation reflects both the evidence (which shows that brief psychological interventions are effective for mild to moderate depression, comparable to antidepressants) and the practical context (where medication has risks including side effects and cost, and where psychological approaches, if available through task-sharing, may be equally effective at lower risk).

For severe depression with psychotic features, significant suicidal risk, or severe functional impairment, medication should be initiated alongside psychological support rather than after a period of psychological treatment alone. Waiting for a response to psychological treatment in a patient with severe depression and significant suicide risk is not clinically safe.

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For anxiety disorders, where exposure-based treatments are highly effective and where medication provides symptom relief but without the durable learning that exposure produces, the ideal sequence is often to begin with psychological treatment, adding medication if the patient's anxiety is so severe that they cannot engage with exposure exercises, or if there is comorbid depression requiring pharmacological management. The use of benzodiazepines in the context of exposure therapy deserves specific attention: since benzodiazepines produce rapid anxiolytic effects, they may paradoxically interfere with the learning that takes place during exposure, by reducing the anxiety that exposure is designed to allow the patient to experience and master. For this reason, many exposure experts recommend avoiding benzodiazepines during active exposure treatment, a recommendation with significant implications for prescribing practice in Bangladesh where benzodiazepine use is very widespread.

95.3 Integration in Practice: The Challenge of Truly Collaborative Care

The ideal of integrated biopsychosocial care, in which the prescribing psychiatrist and the psychotherapist work together as a coordinated team, sharing information, aligning their formulations, and calibrating their respective contributions in response to the patient's progress, remains difficult to achieve in any health system and is particularly challenging in Bangladesh. The institutional separation between psychiatric and psychological services, the limited channels for interprofessional communication, the different training backgrounds and clinical languages of psychiatrists and psychologists, and the simple logistical challenges of organizing coordinated care across different providers, all conspire to make genuinely integrated care the exception rather than the rule.

Several organizational models have been developed to improve the integration of psychological and pharmacological care. The collaborative care model, in which a mental health care manager coordinates between the prescribing physician and the patient, monitoring treatment response, supporting adherence, providing brief psychosocial support, and facilitating communication between all involved parties, has been tested in multiple countries and shown to improve outcomes compared to usual care. Stepped collaborative care, which combines a stepped care approach with collaborative care coordination, has been successfully implemented in several South Asian countries including India and Nepal, with meaningful improvements in depression outcomes.

In Bangladesh, the development of such integrated care models requires both organizational innovation and investment. NIMH and the district-level psychiatric services could serve as hubs for integrated care teams, providing psychiatric consultation and psychological expertise to primary care networks. The training of primary care physicians and nurses in basic psychological support skills would reduce the need for separate psychological referrals for many patients. And the development of shared patient records that can be accessed by both prescribing physicians and community health workers would facilitate the coordination of care across providers.

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CHAPTER NINETY-SIX: PSYCHOSOCIAL REHABILITATION AND RECOVERY-ORIENTED PRACTICE IN BANGLADESH

96.1 Beyond Symptom Management: The Rehabilitation Imperative

For people with serious and persistent mental disorders, including schizophrenia, bipolar disorder, and severe treatment-resistant depression, the elimination of symptoms is often an unrealistic primary goal. Many people with schizophrenia, for example, will have residual symptoms even when on optimal medication, and their quality of life, social functioning, and sense of personal identity will be shaped at least as much by the social consequences of their illness as by the illness itself. For this group, the primary therapeutic challenge is not symptom elimination but rehabilitation: the restoration or development of the functional capacities, social roles, and community connections that mental illness has disrupted.

Psychosocial rehabilitation (PSR) encompasses a broad range of interventions aimed at improving the functioning and quality of life of people with serious mental disorders: social skills training, supported employment, supported housing, cognitive remediation, family psychoeducation, and the development of illness self-management skills. The evidence base for PSR is extensive: multiple systematic reviews and meta-analyses confirm that PSR interventions, particularly supported employment (especially Individual Placement and Support, IPS) and family psychoeducation, produce meaningful improvements in vocational outcomes, social functioning, and quality of life in people with serious mental disorders.

In Bangladesh, the development of PSR services is in its earliest stages. The Pabna Mental Hospital, the primary public psychiatric inpatient facility, has minimal rehabilitation infrastructure. Community-based rehabilitation for people with mental disorders is essentially absent from the formal health system, relying almost entirely on the informal care provided by families and on the limited programs of a small number of NGOs. The development of a functioning PSR system in Bangladesh would require both additional investment and significant organizational innovation, building on the existing networks of CHWs, primary care facilities, and NGO programs.

96.2 Social Skills Training in the Bangladeshi Context

Social skills training (SST) is a structured, behaviorally based intervention aimed at improving the social functioning of people with serious mental disorders, particularly schizophrenia, through systematic instruction, modeling, role-playing, and practice of specific interpersonal skills. Skills addressed in SST programs typically include basic conversation skills, assertion and self-expression, medication management skills (particularly communicating with health providers about medication effects), recreation and leisure skills, and community living skills.

In Bangladesh, the social skills relevant to recovery from serious mental illness are shaped by the specific cultural context. The social expectations placed on men and women in Bangladesh, the norms around authority, respect, and communication in family and community contexts, and the specific interpersonal challenges associated with mental illness stigma in Bangladesh (including the management of revealing one's diagnosis to potential employers or marriage

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partners) all shape the content of social skills training that is needed. An effective SST program for Bangladesh must be based on detailed observation of the actual social situations that people with mental illness encounter in their daily lives in this context, rather than simply importing content from Western SST manuals.

96.3 Vocational Rehabilitation and Supported Employment

Work is central to social identity, economic security, and mental health in Bangladesh as everywhere else. For people with serious mental disorders in Bangladesh, the social stigma of mental illness, combined with the functional impairments that severe mental disorder can produce, creates formidable barriers to employment. The discrimination that people with mental illness face in the labor market is both pervasive and largely unaddressed by law or policy: the 2018 Mental Health Act includes provisions against discrimination, but these are poorly enforced and the employment rights of people with mental illness are not well protected in practice.

Individual Placement and Support (IPS), the most evidence-based model of supported employment, operates on the principle that the goal of vocational rehabilitation is competitive employment in the mainstream labor market (rather than segregated or sheltered employment), and that the most effective route to employment is rapid placement in a real job with ongoing support, rather than extended prevocational training before any placement is attempted. IPS programs provide an employment specialist who works closely with the individual client to identify their work preferences and goals, actively develops job opportunities in the community, provides support both to the client and to the employer, and coordinates with the clinical team to ensure that vocational and clinical care are mutually supportive. Multiple randomized controlled trials have confirmed that IPS is significantly more effective than alternative vocational rehabilitation approaches at achieving competitive employment for people with serious mental disorders.

IPS has not yet been formally tested in Bangladesh, but several elements of the model could be adapted for the Bangladeshi context. The garment manufacturing sector, which employs millions of workers and has an active interest in workforce development and retention, could potentially be engaged as a partner in supported employment for people with mental illness. The significant and growing informal economy in Bangladesh, including small-scale trade, agricultural production, and home-based crafts, offers another potential venue for supported employment models that do not require the formal employer partnerships that IPS typically builds. The development of supported livelihoods models adapted to the Bangladeshi economic context, drawing on IPS principles while recognizing the specific features of the Bangladeshi labor market, is an important area for future program development.

96.4 The Independent Living Skills and Community Integration

For people with serious mental disorders living in Bangladesh, the development of independent living skills is a critical component of rehabilitation. Many people with chronic mental illness in Bangladesh have spent years in a state of high dependence on family members for all aspects of daily life, either because the illness itself impairs their capacity for self-care or because family

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members, out of a combination of concern, protectiveness, and accommodation of the patient's limitations, have taken over functions that the patient could potentially perform independently.

Rehabilitation programs that address activities of daily living, including self-care, meal preparation, household management, financial management, and community navigation, provide structured practice in the development of these skills in a supported environment, with the goal of progressively transferring responsibility to the individual. In Bangladesh, these programs must be sensitive to the role of family members in the patient's life: the goal is not to create an individuated, autonomous person who no longer needs their family, but to develop the patient's capacity to contribute meaningfully to family life and community participation, enhancing their sense of competence and social role rather than withdrawing from the family system.

CHAPTER NINETY-SEVEN: TRADITIONAL HEALING, RELIGIOUS FRAMEWORKS, AND THE INTEGRATION OF CULTURAL PRACTICES IN PSYCHOLOGICAL CARE IN BANGLADESH

97.1 The Persistence of Traditional Healing and Its Significance

As documented in Chapter Five of this textbook, a substantial majority of Bangladeshis who experience mental distress seek help first from informal and traditional sources rather than from the formal mental health system. This pattern of help-seeking reflects not only the limitations of the formal mental health system, which is geographically inaccessible, stigmatizing, and poorly understood by most of the population, but also the genuine value that traditional and religious healing approaches provide to many people. To dismiss traditional healing as irrelevant or harmful, and to insist that all people with mental illness should seek only biomedical care, would be both culturally imperialistic and clinically counterproductive. The challenge for the mental health system is to engage with traditional healing in ways that acknowledge its value, protect the safety and rights of patients, and develop collaborative rather than competitive relationships between biomedical and traditional practitioners.

The landscape of traditional healing in Bangladesh is diverse. The kabiraj, a term for practitioners of herbal medicine, Ayurvedic, or Unani traditions, manages a wide range of physical and mental health complaints using herbal preparations, dietary advice, and various ritual practices. The ojha or kobiraj specializes in spirit-related illness, using techniques including the recitation of mantras, the use of amulets, and exorcistic rituals to address conditions attributed to spirit possession or black magic. The fakir or pir is a figure of spiritual authority in the Islamic tradition, offering healing through prayer, Quranic recitation, the production of taweez (written Quranic texts), and spiritual counsel. The shrine-based healer at a dargah or mazar provides healing through proximity to the baraka (spiritual power) associated with the saint, through the mediation of prayers at the shrine, and sometimes through residential care.

These healers serve different populations and different conditions, and their effectiveness varies considerably both between and within each category. For conditions understood by patients and

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families in primarily spiritual terms, particularly those involving experiences of spirit possession or supernatural attribution, traditional healers may provide a more culturally coherent and acceptable framework for healing than biomedical practitioners. For conditions with a primarily biological basis, such as schizophrenia or bipolar disorder, traditional healers alone are rarely adequate, though they may provide important psychosocial support alongside biomedical treatment.

97.2 Toward Collaborative Models: Engagement Without Endorsement

The development of collaborative models between mental health professionals and traditional healers is a priority that is recognized in international mental health policy and in the mental health literature from several African and Asian countries where similar pluralistic healing landscapes exist. These models do not require biomedical practitioners to endorse the theoretical claims of traditional healing systems. Rather, they require the development of mutual respect, effective communication, and practical referral relationships that allow patients to benefit from the strengths of both systems while minimizing their respective limitations.

Several principles guide effective engagement with traditional healers in the context of mental health care. First, traditional healers should be approached as colleagues with legitimate expertise in certain domains, not as obstacles to biomedical care. Many traditional healers are willing to refer patients with severe mental illness for biomedical treatment when they recognize the limitations of their own approach, provided that they feel respected rather than dismissed by biomedical practitioners. Second, the engagement should be bidirectional: mental health professionals can learn from traditional healers about the cultural idioms of distress, the explanatory models prevalent in their communities, and the specific social and relational dynamics that shape the mental health of the people they serve. Third, any collaboration should be governed by clear principles about the protection of patient rights: while traditional healing practices that are non-harmful should be respected and accommodated, practices that involve physical restraint, coercion, denial of food or water, or other violations of basic human dignity cannot be tolerated regardless of their cultural authorization.

The training of traditional healers in the recognition of serious mental illness and in appropriate referral practices, without attempting to transform them into biomedical practitioners, is a practical and achievable goal. Several programs in South Asia and Africa have demonstrated that brief training of traditional healers in mental illness recognition significantly increases their rate of appropriate referral, and that traditional healers who feel respected by and connected to the biomedical system are more likely to maintain this referral behavior over time.

97.3 Islamic-Informed Psychological Practice: The Emerging Field

The growing body of scholarship and practice aimed at integrating Islamic principles and practices with evidence-based psychological approaches represents one of the most promising developments in culturally informed mental health care for Muslim populations. This field, sometimes called Islamic psychology or Islamic-integrative psychotherapy, draws on the rich tradition of Islamic philosophy, theology, and ethics to develop psychological frameworks and

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therapeutic approaches that are explicitly rooted in Islamic values and resonant with the worldview of Muslim patients.

The Islamic understanding of the nafs (the soul or self) and its relationship to the ruh (spirit), the aql (reason), and the qalb (heart) provides a sophisticated psychological ontology that has been elaborated by Islamic scholars over centuries. The ethical framework of Islam, which emphasizes justice, compassion, gratitude, patience, and trust in God, provides a rich source of therapeutic resources. The practices of Islam, including prayer, fasting, zakat (charitable giving), hajj (pilgrimage), and Quran recitation, have documented psychological benefits that can be incorporated into psychological care without distorting either the religious practice or the therapeutic approach.

Several Islamic-integrative psychotherapy models have been developed and tested, primarily in Malaysia, Iran, and Turkey. These models vary in their specific theoretical frameworks and techniques, but share a commitment to engaging seriously with Islamic tradition rather than merely adding Islamic words to a fundamentally Western psychological approach. The most sophisticated models engage with Islamic jurisprudence (fiqh), Islamic theology (kalam), and Islamic philosophy (falsafa) as substantive intellectual resources rather than simply as cultural decoration.

For Bangladesh, the development of an Islamic-informed psychological practice that is grounded in the specific cultural and intellectual tradition of Bengali Islam (with its particular history of Sufi influence, its synthesis of South Asian and Middle Eastern Islamic traditions, and its rich tradition of devotional music and poetry) represents an important and underexplored opportunity. The development of such an approach would require collaboration between mental health professionals, Islamic scholars, and people with lived experience of mental illness and of Islamic practice, and would require time and resources for careful cultural and theoretical development.

CHAPTER NINETY-EIGHT: CONTROVERSIAL ISSUES IN PSYCHOTHERAPY - A CANDID EXAMINATION

98.1 The Efficacy Debate: Does Psychotherapy Really Work for Everyone?

The evidence that certain forms of psychotherapy work for certain conditions in certain populations is robust and well-established. But the extrapolation from this evidence to the claim that psychotherapy works for all conditions, all populations, and all contexts requires considerably more caution than is sometimes displayed in the advocacy of psychological treatments.

Several important limitations of the psychotherapy evidence base deserve honest acknowledgment. The majority of randomized controlled trials of psychotherapy have been conducted in high-income Western countries, with participants who are typically more educated, more psychologically minded, and more familiar with the concepts and conventions of formal

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psychotherapy than most Bangladeshis. The generalizability of these findings to Bangladesh, where cultural frameworks, educational backgrounds, health literacy, and the social context of mental illness are very different, requires empirical testing rather than assumption.

The evidence of researcher allegiance effects in psychotherapy research is particularly important. Studies comparing different forms of psychotherapy consistently show that each form tends to do better in trials conducted by researchers who are adherents or developers of that particular approach. This allegiance effect, which is larger than the differences between therapies themselves in many meta-analyses, suggests that the evidence base may be systematically biased in ways that are difficult to disentangle.

The allegiance effect raises broader questions about the relationship between the therapist's belief system and therapeutic outcomes. The evidence consistently shows that the therapeutic alliance (the quality of the collaborative working relationship between therapist and patient) is a stronger predictor of outcome than the specific therapeutic technique employed. If this is so, then a therapist who believes deeply in the approach they are using, and who communicates this belief through their commitment, confidence, and genuine engagement, may produce better outcomes than a therapist who is technically proficient but personally uncommitted to the approach. This has implications for the cultural adaptation of psychotherapy in Bangladesh: approaches that therapists themselves find culturally resonant and genuinely believe in may be more effective than technically superior approaches that feel foreign to both therapist and patient.

98.2 Harmful Therapies and the Risk of Iatrogenic Harm

The evidence that psychotherapy can cause harm, while less discussed than the evidence of its benefits, is real and clinically important. Negative outcomes in psychotherapy, defined as the deterioration of the patient's condition in the course of or following treatment, occur at rates estimated at 5 to 10 percent across most published outcome studies. Not all of these deteriorations are causally attributable to the therapy itself, since spontaneous worsening of underlying conditions also occurs, but some proportion reflects genuine therapeutic harm.

The forms of therapeutic harm that have been documented include: the reinforcement of rumination through ill-advised reflective listening that amplifies rather than processes negative affect; the iatrogenic induction of false memories in the context of poorly conducted recovered memory therapy; the inappropriate use of cathartic techniques (encouraging the expression of intense emotion) in situations where the patient lacks the regulatory capacity to benefit from this approach; boundary violations that exploit the asymmetric vulnerability of the patient-therapist relationship; and the reinforcement of avoidance rather than its gradual reduction in approaches that prioritize comfort over therapeutic challenge.

In Bangladesh, the risk of therapeutic harm is complicated by the limited regulatory framework governing psychotherapy practice. Virtually anyone in Bangladesh can practice as a "therapist" or "counselor" without any formal qualification, credential, or oversight. The proliferation of poorly trained therapists operating outside any professional framework, offering services through social media and private practice without supervision or accountability, creates

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significant risks of harm. The development of professional standards, credentialing requirements, and oversight mechanisms for psychotherapy practice in Bangladesh is an urgent regulatory priority.

98.3 The Psychotherapy Equivalence Paradox and Its Implications

The "Dodo bird verdict" in psychotherapy research, named after the character in Alice in Wonderland who declares that "all have won and all must have prizes," refers to the repeatedly confirmed finding that different bona fide psychotherapies tend to produce comparable outcomes in head-to-head comparisons, despite having very different theoretical foundations and very different specific techniques. This finding, while controversial and not universally accepted, has important implications for how we think about psychotherapy, about what it is, and about what makes it work.

If the Dodo bird verdict is correct, and if the explanation lies primarily in the common factors shared across all approaches (therapeutic alliance, hope and expectancy, a coherent rationale for change), then the appropriate response for a country like Bangladesh is not to invest in training large numbers of specialists in specific forms of psychotherapy, but to invest in training a large number of practitioners in the common factors, that is, in empathy, active listening, the communication of hope, and the facilitation of a collaborative relationship, combined with a small number of specific techniques that have the strongest evidence for specific conditions (behavioral activation, problem-solving therapy, exposure for anxiety). This pragmatic approach is consistent with the task-sharing paradigm and with the evidence from low-income country trials.

However, if the equivalence finding is an artifact of methodological limitations in the research, and if specific therapies do in fact have specific advantages for specific conditions in specific populations, then the appropriate response is continued investment in the evidence-based development and adaptation of specific approaches, combined with better systems for matching patients to the therapies most likely to help them. The emerging precision medicine approaches in mental health, which aim to develop algorithms for predicting which individual patients will respond to which specific interventions, represent an attempt to move beyond the one-size-fits-all approach to psychological treatment. While these algorithms are not yet sufficiently developed for routine clinical use, the aspiration they represent is clinically important.

98.4 Cultural Imperialism in Psychotherapy: The Critique and the Response

The most serious intellectual challenge to the global expansion of evidence-based psychotherapy is the critique of cultural imperialism: the argument that the export of Western psychotherapeutic approaches to non-Western societies represents a form of cultural colonialism that privileges Western psychological concepts and values while marginalizing or pathologizing non-Western ways of understanding and responding to suffering.

This critique has several dimensions. At the philosophical level, it argues that the individualistic selfhood assumed by most Western psychotherapies is a culturally specific rather than universal concept, and that applying it to cultures with collectivistic or relational conceptions of selfhood

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involves an implicit devaluation of those other conceptions. At the clinical level, it argues that the emphasis on verbal disclosure of inner emotional states, on the examination and modification of individual thoughts and beliefs, and on the development of autonomous personal goals and agency, may all be culturally alien or actively counterproductive in societies with different norms around self-disclosure, emotion expression, and individual autonomy. At the sociopolitical level, it argues that psychotherapy, by locating the source of suffering in the individual's psychology, may distract attention from the social and structural causes of distress and discourage collective action toward social change.

These critiques are not frivolous, and a serious engagement with them is essential for anyone seeking to develop culturally appropriate psychological care in Bangladesh. At the same time, they need to be balanced against several counterarguments. First, the assumption that all members of any culture share a uniform set of cultural values and that any deviation from Western psychological assumptions is automatically harmful is itself a form of essentialism that denies the genuine diversity within non-Western societies. Many Bangladeshis, particularly those in urban environments with exposure to global culture and higher education, are quite comfortable with the individualistic assumptions of Western psychotherapy. Second, the fact that a psychological approach originated in the West does not in itself make it culturally inappropriate for non-Western populations. Evidence of effectiveness for adapted versions of cognitive behavioral therapy in multiple South Asian countries suggests that the core principles of these approaches can be translated across cultural boundaries, even if their specific content and style must be adapted. Third, the critique of cultural imperialism should not be used as an excuse for denying effective psychological treatment to people who are suffering. The failure to provide evidence-based psychological care in Bangladesh because of concerns about cultural imperialism, while leaving hundreds of thousands of people without any access to effective treatment, would be a worse form of cultural condescension than the careful, respectful adaptation of evidence-based approaches for the cultural context.

CHAPTER NINETY-NINE: COMPREHENSIVE CASE STUDIES FOR PART SIXTEEN

The following case studies illustrate the application of psychological and psychosocial interventions in the Bangladesh context, drawing together the principles and approaches described in the preceding chapters.

Case Study 99.1: Group Behavioral Activation for Depression in a Garment Worker Health Program

Sumi is a 24-year-old woman from Gazipur, working in a garment factory. She came to the attention of a factory health worker during a routine health screening when she mentioned she had been feeling "very heavy and exhausted" for the past three months. The health worker, trained in basic mental health assessment as part of the Moner Kotha workplace health program, administered the PHQ-9 and found a score of 14, indicating moderate depression. Sumi described loss of pleasure in activities she used to enjoy (chatting with friends, calling her

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family in her home village), poor sleep, poor appetite, fatigue, and a persistent feeling that she was a burden to everyone around her.

Sumi's formulation identified several precipitating and maintaining factors: the separation from her family and social network following her migration to Dhaka for work; the exhausting physical demands of factory work combined with the crowded and noisy conditions of her hostel accommodation; a conflict with a supervisory colleague who had unfairly blamed her for a production error, leaving her feeling humiliated and angry; and the financial pressure of sending remittances home while managing on a modest wage in an expensive city.

The health worker offered Sumi enrollment in a six-session group behavioral activation program, delivered in the factory's health center after the day shift, with four other women who had similar presentations. The group, facilitated by the health worker with monthly supervision from a clinical psychologist at NIMH via WhatsApp video call, focused on helping the women identify activities that had previously provided pleasure or a sense of achievement, understand the relationship between activity and mood, and gradually re-engage in these activities despite low motivation.

The group format proved to have specific benefits beyond the behavioral activation itself. The shared experience of five women from different parts of Bangladesh who had all come to Dhaka for factory work and who were all experiencing similar struggles of migration, loneliness, and workplace stress was powerfully normalizing. The women described the group as the only space where they could speak honestly about their experiences without fear of judgment. By the fourth session, there was strong peer support and mutual encouragement developing within the group, with members checking in on each other between sessions.

Sumi's PHQ-9 at the end of the six sessions had dropped to 6, indicating mild depression. She had re-established regular phone contact with her family (previously she had been avoiding calls because she did not want them to hear that she was unhappy), had started attending the Friday market with a new friend from the group, and had spoken with her team leader about the conflict with the supervisory colleague, achieving a partial resolution. She remained in the group which continued as a peer support group after the structured sessions ended.

This case illustrates the feasibility of task-shared, group behavioral activation in a workplace setting, the specific benefits of the group format for socially isolated migrants, and the value of peer support as a continuing resource beyond the formal intervention.

Case Study 99.2: Family Psychoeducation for Schizophrenia in a Rural Bangladeshi Family

Rahim is a 28-year-old man from a village in Comilla district who was diagnosed with schizophrenia five years ago following an acute psychotic episode that required hospitalization at the district psychiatric facility. He has been maintained on risperidone 4 mg daily since discharge, with reasonable symptom control, but has had two relapses in the intervening period, both associated with medication discontinuation. His family, consisting of his parents, two brothers, and their wives, has been the primary source of his care throughout.

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A community mental health outreach team visited the family following the second relapse. The team member, a trained primary care worker with psychiatric supervision, conducted a family assessment using a culturally adapted expressed emotion interview. The interview revealed high levels of expressed emotion in the family, particularly from Rahim's father, who made frequent critical comments about Rahim's failure to contribute to the family farm ("He just sits there while the rest of us work, it's pure laziness"), and from one sister-in-law who expressed significant emotional over-involvement, spending much of her day monitoring Rahim's behavior and expressing extreme anxiety about any change in his presentation.

A six-session family psychoeducation program was offered to the family. The sessions, held at the family home and facilitated by the primary care worker with telephone supervision from the district psychiatrist, covered the following topics over six weeks: the nature of schizophrenia as a brain illness and not a personal failing or divine punishment; the role of medication in preventing relapse and the importance of consistent adherence; the identification of early warning signs of relapse specific to Rahim (increased social withdrawal, changes in sleep pattern, and quiet muttering); the impact of high expressed emotion on relapse risk and practical communication strategies for reducing criticism and over-involvement; problem-solving for the practical challenges of caregiving; and self-care for family members as caregivers in their own right.

The sessions were not consistently easy. Rahim's father, initially skeptical about the illness model and resistant to the suggestion that his critical comments might be harmful, gradually engaged as he came to understand the neurobiological basis of Rahim's presentation and to see his son's lack of motivation as a symptom of the illness (negative symptoms) rather than as a character failing. The sister-in-law's anxiety was addressed through information about relapse warning signs that gave her a more structured and less continuously hyper-vigilant monitoring role: she was asked to note specific warning signs and report them to the community health worker rather than maintaining her current state of constant alert.

At six-month follow-up, Rahim's medication adherence had improved (he had not missed a dose for four months), his family relationships were somewhat less tense, and his father reported that he had started contributing to small tasks on the farm, consistent with a modest improvement in his negative symptoms. No relapse had occurred. The family expressed interest in connecting with other families in similar situations, and the outreach team began the process of facilitating a peer family support group in the sub-district.

Case Study 99.3: Adapted CBT for Anxiety and Dhat Syndrome

Kamal is a 26-year-old unmarried man from Sylhet who presented to a private clinic in Dhaka complaining of weakness, fatigue, heart palpitations, poor concentration, sexual dysfunction, and what he described as milky substance in his urine. He believed he was losing semen through urination, which he attributed to excessive masturbation during adolescence, and he was deeply ashamed and convinced that this was responsible for all of his current symptoms. He had consulted three general physicians, who had found no evidence of semen in his urine but whose reassurance had not relieved his anxiety.

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Psychiatric assessment found that Kamal met criteria for both generalized anxiety disorder and a dhat syndrome presentation. His health anxiety was severe, with constant monitoring of his urine, repeated physical self-examination, and ongoing seeking of medical reassurance. His sexual dysfunction was likely related to performance anxiety and to the chronic anxiety disorder, rather than to any primary sexual condition.

The treatment was conceptualized as adapted CBT for health anxiety, with specific attention to the dhat belief system as the culturally specific cognitive framework within which his health anxiety was expressed. The therapist, a clinical psychologist with experience in culturally informed practice, began by providing detailed psychoeducation that engaged with Kamal's explanatory model: acknowledging the cultural belief in the vital importance of semen, explaining the actual physiology of semen production and the absence of any mechanism by which masturbation could cause lasting harm to bodily functioning, and providing him with accurate information about normal variation in urinary appearance. This psychoeducation was delivered with genuine respect for the cultural framework within which Kamal's beliefs existed, without condescension or dismissal.

The cognitive work focused on identifying the specific automatic thoughts that were driving his anxiety (including "If I lose more semen I will become permanently weak and unable to marry," "The doctors don't know what is really wrong with me because dhat is a special condition they don't understand"), examining the evidence for and against these thoughts, and developing more accurate and helpful alternative perspectives. The behavioral work focused on reducing reassurance-seeking behavior, including reducing visits to physicians for reassurance and reducing self-monitoring, through a graded program of response prevention similar to that used in OCD treatment.

By session ten, Kamal's health anxiety had reduced substantially on standardized measures. He had largely stopped seeking medical reassurance, the dhat belief remained but was no longer controlling his behavior or causing him constant distress, and his sexual function had improved as his performance anxiety diminished. He was provided with relapse prevention strategies and discharged with a plan for follow-up at three months.

This case illustrates the clinical skill required to engage respectfully with culturally specific explanatory models while providing effective evidence-based treatment for the underlying anxiety disorder, and demonstrates that adapted CBT can address dhat syndrome effectively when cultural sensitivity and technical competence are combined.

Case Study 99.4: IPT for Postpartum Depression in a Primary Care Setting

Rima is a 22-year-old woman who delivered her first child three months ago. She was identified through postpartum screening at her local community clinic as having possible depression, with a score of 14 on the Edinburgh Postnatal Depression Scale. When the shasthya shabikaI (community health worker) asked her how she was feeling, she burst into tears and said she had been feeling that she was a terrible mother and that her baby would be better off without her.

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The community health worker immediately referred her to the upazila health complex, where a nurse with mhGAP training assessed her. She met criteria for moderate postpartum depression. She had no active suicidal intent but described passive thoughts that she would be better off dead. Her clinical history revealed that the postpartum period had been extremely difficult: her mother-in-law, with whom she lived in a joint family household, had been critical of her breastfeeding (insisting she was not producing enough milk), had taken over the care of the baby at times in ways that left Rima feeling incompetent and sidelined, and had made comments about the family's disappointment that the baby was a girl. Her husband, who worked long hours, had been largely unavailable. She had not spoken to her own mother since delivery because the journey to her mother's village was two hours and she did not feel she could ask her husband for the fare.

The nurse provided initial supportive counseling and psychoeducation about postpartum depression, explicitly normalizing Rima's experience and validating her distress. She arranged for a more structured IPT-based intervention, delivered in six sessions by the nurse with supervision from a clinical psychologist contacted by phone. The primary IPT focus was identified as role dispute (the conflict with her mother-in-law about her role as mother to her own child) and role transition (the enormous life change of becoming a mother for the first time).

The IPT work focused on helping Rima articulate and understand the interpersonal conflict with her mother-in-law, identify her own needs and expectations in the role of mother, develop communication strategies for asserting these needs with appropriate respect for her mother-in-law's seniority and authority within the household, and rebuild her connection with her own mother as a source of support. Several role-playing exercises helped her practice specific conversations with her mother-in-law. By session four, she had spoken directly with her husband about her need for more support and for regular contact with her own family, and he had arranged for her to visit her mother. The visit was transformative: her mother's warmth and validation of her competence as a new mother provided a powerful corrective emotional experience.

At six weeks post-treatment, Rima's EPDS score had dropped to 7, indicating mild depressive symptoms within the normal range for the postpartum period. She described herself as feeling "like a real mother" for the first time. The nurse maintained monthly phone contact for a further three months, at which point Rima was discharged from follow-up.

CHAPTER ONE HUNDRED: INVESTIGATION PROTOCOLS, ASSESSMENT TOOLS, AND OUTCOME MEASUREMENT IN PSYCHOLOGICAL PRACTICE

100.1 Psychological Assessment: More Than Diagnosis

Psychological assessment in the context of psychotherapy is substantially different from psychiatric diagnosis. While psychiatric assessment aims primarily to assign a categorical diagnosis in order to guide pharmacological treatment, psychological assessment is concerned with understanding the individual in their full complexity: their strengths as well as their

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difficulties, their developmental history, the specific cognitive, emotional, and behavioral patterns that maintain their distress, the interpersonal context in which they live, and their own understanding of their situation and goals. This fuller assessment provides the basis for a case formulation that goes beyond diagnosis to describe the specific mechanisms through which this individual's difficulties have developed and are maintained, and that guides a specifically tailored treatment plan.

Several standardized assessment instruments are particularly important in the psychological assessment of patients in Bangladesh. For depression, the Patient Health Questionnaire-9 (PHQ-9), validated in Bengali-language versions for use in Bangladesh, is the most widely used brief screening and severity measure. For anxiety, the Generalized Anxiety Disorder-7 (GAD-7) provides a brief, validated measure suitable for primary care screening. For PTSD, the PCL-5 (PTSD Checklist for DSM-5) has been used in Rohingya and disaster-affected populations in Bangladesh, though its validity in the Bangladeshi cultural context requires careful attention. For quality of life and functional outcome, the WHO Disability Assessment Schedule (WHODAS 2.0) provides a culturally validated measure of functional impairment that is independent of specific diagnostic categories.

The administration of standardized assessment instruments in Bangladesh requires attention to several practical issues. Literacy levels vary considerably across the population, and instruments designed for self-administration may need to be administered verbally by trained interviewers in populations with limited literacy. Cultural adaptation of items, beyond simple translation, is necessary to ensure that the concepts measured by the instrument are understood in culturally consistent ways. Normative data from Bangladeshi populations are available for some instruments (including the PHQ-9 and the Edinburgh Postnatal Depression Scale) but not for others, and the application of cut-points derived from Western populations may require recalibration for the Bangladeshi context.

The case formulation is the central integrative document of psychological assessment and should be developed collaboratively with the patient. A good case formulation in the Bangladeshi context should address the presenting problem and its impact on functioning; the precipitating factors (the specific events or circumstances that triggered the current episode); the predisposing factors (the developmental, biological, psychological, and social factors that created vulnerability); the perpetuating or maintaining factors (the cognitive, behavioral, interpersonal, and social factors that are keeping the problem going); and the protective factors (the personal strengths, social resources, and cultural and spiritual resources that support resilience and recovery).

100.2 Outcome Measurement and Clinical Effectiveness Research in Bangladesh

The systematic measurement of psychological therapy outcomes in Bangladesh is in its earliest stages, reflecting the newness of the formal psychotherapy sector and the limited research infrastructure in most clinical settings. However, the development of routine outcome monitoring (ROM), in which standardized measures are administered at regular intervals throughout treatment to track patient progress and identify patients who are not improving, is an important clinical and research priority.

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The evidence from ROM research in high-income countries is compelling: patients whose therapists have access to session-by-session outcome data, and who are flagged as "not on track" (i.e., not improving at the expected rate), achieve significantly better outcomes than patients in care as usual without routine monitoring. This benefit is attributed to the ability of therapists to recognize when a treatment is not working and to make informed adjustments, including changing the therapeutic approach, addressing therapeutic alliance ruptures, or considering alternative interventions. The implementation of ROM in clinical psychology training programs and in specialized psychotherapy services in Bangladesh would provide both clinical and research benefits.

Several considerations are important for the effective implementation of outcome monitoring in Bangladesh. The choice of outcome measures must balance psychometric quality with practical feasibility: measures must be brief enough to be administered at every session without burdening patients or clinicians, available in validated Bangla versions, and understandable by patients with a range of educational backgrounds. The infrastructure for data collection, storage, and analysis must be appropriate for the technological context, using paper-based systems where digital infrastructure is unavailable and simple digital systems where smartphone or computer access is available. And the culture of outcome monitoring, in which routine data collection is understood as a tool for improving care rather than as a surveillance or accountability mechanism, must be established through training and professional culture.

CHAPTER ONE HUNDRED AND ONE: PHILOSOPHICAL AND PUBLIC HEALTH ANALYSIS OF PSYCHOLOGICAL THERAPIES IN BANGLADESH - REFLECTIONS AND FUTURE DIRECTIONS

101.1 The Ethics of Psychotherapy in Bangladesh: Autonomy, Care, and Justice

The practice of psychotherapy raises ethical questions that are both universal, arising from the nature of the therapeutic relationship wherever it occurs, and specific, arising from the particular social and cultural context of Bangladesh. Several ethical dimensions deserve explicit analysis.

The principle of autonomy, central to biomedical ethics, requires that the patient participate in treatment decisions as a genuinely informed and voluntary agent. In the context of psychotherapy, this means that patients must understand what therapy involves, what its goals and methods are, what alternative treatments are available, and what the evidence for its effectiveness is, and must give genuine consent to participate. In Bangladesh, where health literacy is limited, where the power differential between health professionals and patients is considerable, and where family members may exert significant influence over treatment decisions, ensuring genuine informed consent for psychotherapy is more complex than it might appear.

The feminist analysis of psychotherapy in Bangladesh, which has received insufficient attention in the mental health literature, raises important questions about the relationship between

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psychotherapy and gender justice. Much of the distress that Bangladeshi women present with in psychological services arises from structural gender inequality, from intimate partner violence, from limited access to economic opportunity and educational resources, from the devaluation of women's experience and perspectives within their families and communities. The risk of psychotherapy in this context is that it pathologizes women's appropriate responses to unjust circumstances, providing individual adjustment to unjust conditions rather than supporting collective action toward changing them. A feminist-informed psychotherapy in Bangladesh must be clear about the distinction between helping women cope more effectively with unavoidable difficulties and implicitly encouraging adaptation to circumstances that should be changed.

The justice dimension of psychotherapy access is perhaps the most important ethical consideration in the public health context. When psychotherapy is available only to affluent urban Bangladeshis who can afford private sector fees, while the rural poor and the marginalized receive no psychological care at all, the distribution of this potentially life-changing resource is profoundly unjust. The moral imperative to address this injustice, through the investment in task-sharing models, community-based psychological services, and digital mental health tools that can extend access to underserved populations, is as compelling as the moral imperative to develop effective treatments in the first place.

101.2 Public Health Perspectives on Psychological Therapy: Population Impact and Resource Allocation

From a public health perspective, the development of psychological therapies must be evaluated not only in terms of their efficacy for individual patients but in terms of their potential impact at the population level. A highly efficacious therapy that can only be delivered by highly trained specialists at high cost, and that is therefore available to a tiny fraction of the population in need, will have minimal population-level impact however impressive its individual-level outcomes. A moderately efficacious therapy that can be delivered at low cost by briefly trained community health workers, and that can therefore reach large numbers of people in need, may have a far greater population-level impact despite its lower per-patient effect size.

This public health calculation strongly supports the prioritization of task-sharing, scalable psychological interventions in Bangladesh. The development of evidence-based, culturally adapted, brief psychological interventions that can be delivered by primary care workers and community health volunteers, with appropriate specialist supervision, is both the most ethically defensible and the most practically feasible approach to reducing the massive burden of untreated mental disorder in Bangladesh. This does not mean that specialist psychological services are unimportant; they are essential for the most complex presentations and for providing the training and supervision that make task-sharing systems function effectively. But the distribution of resources between specialist and task-sharing services needs to reflect the epidemiological realities of Bangladesh, where the majority of psychological need is at the common mental disorder level and is currently receiving no care at all.

The global burden of disease analysis, which expresses the disability and mortality attributable to different conditions in comparable units called disability-adjusted life years (DALYs), places depression and anxiety disorders among the largest contributors to the burden of disease

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globally and in Bangladesh. This burden analysis provides a powerful argument for increasing investment in psychological therapies as components of a comprehensive public health response to mental disorder. The evidence that psychological therapies, when delivered at adequate scale through task-sharing models, can produce meaningful reductions in this burden at reasonable cost provides the public health justification for the investment.

101.3 The Future of Psychological Therapies in Bangladesh: A Vision for 2030

The vision of this chapter's concluding section is for a Bangladesh in which effective psychological care is genuinely available to the population in need, not merely to the small minority who can access specialist services in Dhaka and other major cities. This vision is ambitious but not utopian: it builds on existing assets (the CHW network, the primary care system, the growing number of trained mental health professionals, the NGO sector's experience in community-based programming) and on a clear evidence base for what works.

By 2030, an achievable set of goals for psychological care in Bangladesh would include: the integration of a brief, evidence-based psychological assessment (using the PHQ-9 and GAD-7 as standard screening tools) into routine primary care encounters across all upazila health complexes; the training of at least one primary care worker in each upazila in mhGAP-based psychological management, with regular specialist supervision; the availability of structured group psychological interventions (behavioral activation, problem-solving therapy, brief IPT) in all divisional headquarters and major district hospitals; the development and validation of Bangla-language digital mental health tools, including a mental health information platform and a guided self-help app for depression and anxiety; the establishment of a cadre of supervised lay counselors in all divisions, trained in culturally adapted supportive counseling and brief structured interventions; the development of family psychoeducation programs for people with serious mental illness across all district-level psychiatric services; and the establishment of a national routine outcome monitoring system for mental health services that can track access, quality, and outcomes of psychological care at the population level.

These goals are not achievable without sustained political commitment, substantial investment in training and supervision infrastructure, and the development of the regulatory framework needed to ensure the quality and safety of an expanded psychological therapy workforce. They require advocacy from the mental health professional community, from civil society organizations, and from people with lived experience of mental illness and their families. They require research to generate the evidence base for culturally adapted interventions and to demonstrate the cost-effectiveness of investment in psychological care. And they require the sustained engagement of the international mental health community in supporting Bangladesh's development of its own mental health workforce and service infrastructure.

101.4 The Philosophical Horizon: What Kind of Care Is Psychological Therapy?

As this extensive chapter draws toward its conclusion, it is worth stepping back from the clinical details to consider the deeper philosophical question that underlies the entire enterprise of psychological therapy: what kind of care is it, and what does its practice say about what we value?

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Psychotherapy is a peculiar and distinctive form of care that occupies an unusual position in the landscape of medicine and human services. Unlike pharmacological treatment, which acts on the body through chemical mechanisms and whose therapeutic effects do not depend on the patient's understanding or active participation, psychotherapy works primarily through relationship, understanding, and the collaborative creation of new meaning and new possibilities. The person who is healed through psychotherapy is not simply a passive recipient of treatment but an active participant in a process of self-understanding and change that is, at its best, genuinely transformative.

This participatory character of psychotherapy reflects a profound commitment to the agency and dignity of the person who is suffering. It says: you are not merely a disordered brain or a collection of symptoms to be managed by technical intervention; you are a person with a history, a point of view, and a capacity for understanding your own experience and making choices about your own life, and your healing must involve and build on these capacities rather than bypassing them. This commitment to patient agency and dignity is not merely a therapeutic technique but a fundamental ethical stance, one that is particularly important in a context like Bangladesh where stigma, marginalization, and the denial of the full humanity of people with mental illness are persistent problems.

The practice of psychotherapy, at its best, is also a practice of radical attention: the therapist's sustained, non-judgmental, genuinely curious attention to the full complexity of another person's experience, without the agenda of fixing or explaining away that experience, is a form of care that is rare and precious in any human context. In a world where most of the encounters that people with mental illness have with services are brief, perfunctory, and focused on symptom management rather than on understanding, the deep attention of a skilled psychotherapist represents something genuinely different: a form of care that acknowledges and responds to the full humanity of the person in their suffering.

These reflections do not imply that psychotherapy is always or only a lofty philosophical endeavor, or that its practical, skill-based, manualized dimensions are unimportant. They imply that psychotherapy, even in its most pragmatic and brief forms, carries within it a set of philosophical and ethical commitments that distinguish it from other forms of treatment and that are as important as its technical effectiveness. The development of psychological therapy in Bangladesh must be guided not only by evidence about what works but by a vision of what kind of care we aspire to offer: care that is effective, yes, but also care that is respectful, culturally grounded, humanistically informed, and committed to the full recognition of the dignity and agency of every person who seeks it.

CHAPTER ONE HUNDRED AND TWO: SUMMARY, INTEGRATION, AND CONNECTIONS TO PART SEVENTEEN

Part Sixteen has traversed a wide and varied landscape, from the ancient antecedents of psychotherapy in Mesopotamian and Greek healing traditions through the contemporary science and practice of evidence-based psychological intervention, from the theoretical foundations of

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cognitive-behavioral, psychodynamic, humanistic, and mindfulness-based approaches through the practical realities of task-sharing community health worker programs, from the philosophical dimensions of the healing relationship through the public health mathematics of population-level treatment coverage.

The central argument of this Part may be stated with some confidence. Effective psychological treatments exist for the major mental health conditions affecting Bangladeshis. These treatments can be adapted for the cultural and resource context of Bangladesh. They can be delivered at meaningful scale through task-sharing models that extend their reach far beyond what specialist-only services could achieve. They are not luxuries but necessities, as essential to the mental health response as pharmacological treatment, and in many conditions more durable in their effects. And their development and implementation requires sustained investment, political commitment, research, and above all the engagement of the Bangladeshi mental health community in the genuinely creative work of adaptation, innovation, and advocacy.

The specific conclusions of the individual chapters may be summarized as follows.

The history and philosophy of psychotherapy establishes that healing through relationship is among the oldest and most robust of human therapeutic practices, that the scientific development of psychotherapy in the twentieth century has confirmed and elaborated this ancient wisdom through rigorous research, and that the philosophical foundations of psychotherapy, concerning the nature of the self, the relationship between mind and body, the ethics of care, and the social determinants of suffering, are deeply relevant to its practice in any cultural context.

The development of adapted cognitive-behavioral therapy for Bangladesh, exemplified by the landmark 2024 BMC Psychiatry pilot study and by the broader evidence from South Asian countries, demonstrates both the necessity and the feasibility of careful cultural adaptation. The somatic gateway approach, the integration of Islamic frameworks, the adaptation of the therapeutic relationship to local norms around authority and collaboration, and the development of brief, group-based formats for resource-limited delivery are all essential elements of effective CBT adaptation for Bangladesh.

Psychodynamic approaches, while not feasible in their formal long-term versions, contribute essential concepts to clinical understanding and practice in Bangladesh: the developmental understanding of psychological difficulties, the clinical importance of defense mechanisms and attachment, the therapeutic potential of the relationship itself, and the meaning of the patient's experience as distinct from and irreducible to the description of their symptoms.

Interpersonal therapy, with its focus on the connection between interpersonal relationships and mental health, is particularly well-adapted to the cultural context of Bangladesh, where relationships are the primary medium of well-being and suffering. Its application to the specific interpersonal challenges of Bangladeshi life, including grief, role transitions associated with migration and family change, and role disputes in the context of gender inequality, deserves continued research and clinical development.

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Family therapy and systemic approaches recognize the fundamental reality that in Bangladesh, the family is not merely the background to individual mental health but its primary context. Family psychoeducation for serious mental illness, with an evidence base that spans multiple cultures and health system contexts, deserves significant investment and scale-up in Bangladesh.

Mindfulness-based interventions, while developed in a Western clinical context from Buddhist contemplative roots, have the potential for culturally resonant adaptation in Bangladesh, drawing on both the contemplative dimensions of Islamic practice and the evidence for their effectiveness across diverse cultural and socioeconomic contexts. The development of brief, accessible mindfulness-based programs for Bangladesh deserves urgent research attention.

Third-wave therapies, including DBT, ACT, and schema therapy, offer important contributions that complement existing approaches, particularly for the complex presentations involving emotional dysregulation, personality difficulties, and chronic suicidal behavior that are currently undertreated in Bangladesh.

Supportive psychotherapy, counseling, and crisis intervention form the accessible foundation of the psychological care system: skills that can be taught to a wide range of health and community workers, and that produce meaningful benefit even when more specialized approaches are not available.

The task-sharing paradigm represents the most realistic and most equitable pathway to scale in psychological care in Bangladesh. The evidence from low-income country trials, from the mhGAP implementation experience, and from community health worker programs in Bangladesh demonstrates that task-sharing works, that its implementation is feasible, and that its scale-up is achievable given adequate investment and organizational development.

Digital mental health tools offer an emerging complement to face-to-face psychological care, with particular potential for psychoeducation, self-monitoring, and the remote extension of specialist supervision to task-sharing workers. Their development for Bangladesh requires investment in Bangla-language content, attention to the digital divide, and rigorous safety monitoring.

The integration of psychological and pharmacological treatment, guided by the stepped care model and organized through collaborative care frameworks, is the clinical ideal toward which the Bangladesh mental health system should aspire, even as it acknowledges the distance between current reality and this aspiration.

Psychosocial rehabilitation and recovery-oriented practice, extending the goals of mental health care beyond symptom management to functional recovery and community participation, is an essential complement to both pharmacological and psychological treatment for people with serious mental disorders.

The engagement of traditional healing systems, and the development of collaborative rather than competitive relationships between biomedical and traditional practitioners, is both a cultural

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necessity and a practical opportunity for extending the reach of mental health care in Bangladesh.

The ethical and philosophical dimensions of psychotherapy, concerning the dignity and agency of the person in therapy, the justice of access to psychological care, and the relationship between individual psychological treatment and social change, are not decorative additions to clinical practice but its deepest foundations.

Part Seventeen, which follows, will address the mental health system of Bangladesh in its totality: its organization, financing, governance, and workforce; the policy frameworks that shape it; the international dimensions of Bangladesh's mental health development; and the vision for a transformed mental health system that can meet the extraordinary challenge of serving the mental health needs of one of the world's largest and most resilient populations. This system-level perspective, which must hold together the clinical detail of the preceding sixteen parts with the organizational and political analysis needed to translate that clinical knowledge into population-level change, is the culminating challenge to which the final part of this textbook is devoted.

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Part Sixteen concludes here. Part Seventeen: The Mental Health System of Bangladesh - Organization, Policy, Governance, Workforce, International Dimensions, and the Vision for Transformative Change, follows.

PART SEVENTEEN: THE ARCHITECTURE OF THE FUTURE: MENTAL HEALTH SYSTEMS, HUMAN RIGHTS, PUBLIC MENTAL HEALTH, RESEARCH, AND THE TRANSFORMATION OF PSYCHIATRY IN BANGLADESH

INTRODUCTORY NOTE TO PART SEVENTEEN

This is the final part of a textbook that has traveled very far. It began in the landscape of ancient Mesopotamia and Bengal, moved through colonial asylums and the moral reform movement, dwelt for long chapters in the neuroscience of synaptic transmission and the pharmacology of chlorpromazine, and spent considerable time in the clinical rooms of district hospitals and the crowded consulting spaces of Dhaka's medical colleges. It examined depression in garment workers and psychosis in fishing communities. It explored the spiritual frameworks through which Bangladeshis understand distress and the evidence-based therapies that have been developed in Western laboratories and adapted, imperfectly but earnestly, for Bangladeshi

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realities. It argued for the importance of children, the elderly, the Rohingya, the indigenous, the incarcerated, and all the other populations whose mental health needs have been systematically neglected.

Part Seventeen now takes a different stance. It steps back from the specific and looks at the whole. It asks the structural questions: How should a mental health system be built? What is the proper relationship between psychiatry, law, and human rights? What does public mental health mean, and how should it be practiced? What research agenda should Bangladesh pursue? What is the future of the discipline itself, given the extraordinary scientific and technological changes now underway? And what does all of this mean for a student sitting in a medical college in Rajshahi or Mymensingh, preparing to enter practice in a country with extraordinary mental health needs and very limited resources?

These are not comfortable questions. They require confronting large gaps between what is known and what is done, between what is possible and what exists, between the aspirations of the global mental health movement and the everyday realities of Bangladeshi psychiatric care. But discomfort in the face of injustice is the beginning of constructive action, and this final part is written in the hope that the readers who finish it will carry not only knowledge but also a sense of responsibility and agency.

Part Seventeen is organized around eleven chapters. The first examines mental health systems as a concept and applies that framework to the Bangladeshi reality with clarity and critical honesty. The second explores the legal and human rights dimensions of mental health, a subject that has grown more important globally with the 2025 WHO Guidance on Mental Health Policy and Strategic Action Plans and the approach of the 2025 United Nations High-Level Meeting on noncommunicable diseases and mental health. The third chapter addresses the epidemiology and prevention of mental disorders from a public health perspective. The fourth examines the role of community mental health and the task-sharing agenda. The fifth looks at research: what Bangladesh needs, what it has, and what it should build. The sixth examines the emerging frontiers of psychiatry including digital mental health, precision psychiatry, and the psychedelics renaissance. The seventh explores stigma, advocacy, and social change, asking how the deep cultural structures that sustain stigma can be changed. The eighth is an extended philosophical and theoretical meditation on what we have learned and what remains uncertain. The ninth contains comprehensive case studies. The tenth contains study questions, investigation protocols, and clinical vignettes. And the eleventh is the final synthesis: a closing argument about what psychiatry in Bangladesh should aspire to be.

CHAPTER ONE HUNDRED AND THREE: MENTAL HEALTH SYSTEMS IN BANGLADESH: UNDERSTANDING WHAT EXISTS, DIAGNOSING WHAT IS BROKEN, AND IMAGINING WHAT IS POSSIBLE

103.1 The Concept of a Mental Health System

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The word "system" implies something organized, integrated, and purposeful. It implies that the various components of care, the hospitals, the clinics, the community health workers, the medications, the information flows, the financing mechanisms, the training programs, the laws, and the oversight bodies, are arranged in relation to each other in a way that produces coherent outcomes for the people who use them. A system is more than the sum of its parts. It is the configuration of the parts, and the quality of their relationships, that determines whether the system works.

By this standard, Bangladesh does not yet have a mental health system in any full sense. It has components: a small number of specialist institutions, a growing number of trained psychiatrists and psychologists, a legal framework that was substantially updated in 2018, a National Mental Health Strategic Plan that extends to 2030, and a primary care network that could, in principle, serve as a platform for community mental health services. But these components are not integrated in ways that produce consistent, accessible, high-quality care for the majority of people with mental disorders. The gaps between them are vast, and what falls into those gaps is human suffering of enormous and largely invisible scale.

The WHO framework for mental health system assessment identifies six key building blocks, which it takes from the general health system strengthening literature: governance and leadership; financing; mental health workforce; essential medicines and technologies; service delivery; and information and research. Examining Bangladesh through this framework reveals both the specific nature of its system failures and the points at which strategic intervention could produce the greatest change.

103.2 Governance and Leadership: Who Is Responsible?

Governance of mental health in Bangladesh is technically the responsibility of the Ministry of Health and Family Welfare, through the Directorate General of Health Services (DGHS). Within DGHS, the mental health program has historically been managed under the Non-Communicable Disease Control program, reflecting the now well-established understanding that mental disorders are non-communicable conditions that share risk factors, service delivery platforms, and policy challenges with conditions like diabetes, hypertension, and cardiovascular disease.

The WHO Special Initiative for Mental Health, which includes Bangladesh among its nine country partners, has advocated for the establishment of a separate Directorate for Mental Health from 2024 onward, recognizing that the specific demands of mental health governance, including the management of specialized institutions, the oversight of coercive treatment, the coordination of community services, and the management of the highly specialized mental health workforce, cannot adequately be addressed within a general NCD management structure. As of 2026, this transition is in various stages of discussion and planning. Its full implementation would represent a significant institutional advance.

The National Mental Health Authority mandated by the Mental Health Act 2018 has been slow to become fully operational. This authority is intended to serve multiple functions: licensing and regulating mental health facilities, setting quality standards, receiving and investigating complaints from people with mental illness and their families, and advising the government on

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mental health policy. The delay in its operationalization reflects both administrative inertia and the broader political challenges of prioritizing mental health in a system that is under pressure from many competing demands.

At the district level, governance of mental health is essentially non-existent in most parts of the country. The Civil Surgeon, who is responsible for health services in each district, rarely has any specialized training in mental health and is often unaware of the limited mental health provisions that do exist within the primary care system. The upazila (subdistrict) health complexes, which are the main point of contact between the formal health system and most of the rural population, have no designated mental health focal person, no mental health treatment protocols, and no systematic approach to identifying and managing people with mental disorders.

This governance vacuum at the district and subdistrict levels is one of the most important structural problems in the Bangladeshi mental health system. Without functional governance at these levels, no amount of policy at the national level can translate into care at the community level. The training of upazila health administrators in mental health, the designation of mental health focal points in each upazila, and the development of district-level mental health coordination mechanisms are practical governance reforms that could produce significant improvement without requiring major financial investment.

Political leadership for mental health matters enormously. International experience is consistent on this point: countries that have made significant progress in mental health system development have typically had strong political champions at the ministerial level who were willing to prioritize mental health in competition with other health and development priorities. The mental health field in Bangladesh has benefited from the advocacy of committed clinicians and researchers, but it has not yet succeeded in generating the sustained political commitment at the highest levels that transformative change requires. The student-led uprising of 2024 and the subsequent political transition may create new opportunities for political engagement with mental health as part of a broader agenda of social reform and good governance.

103.3 Financing Mental Health: The 0.44 Percent Problem

The single most revealing statistic about the Bangladeshi mental health system is that mental health receives approximately 0.44 percent of the total health budget. This figure, which comes from government health expenditure data analyzed in several published papers and confirmed by WHO assessment reports, is scandalously low even by the standards of other low-income countries. The global median mental health budget share is approximately 2 percent of total health spending. In high-income countries, it is significantly higher. Bangladesh's 0.44 percent reflects a persistent failure to treat mental health as a genuine public health priority despite formal policy commitments to the contrary.

The consequences of this underfinancing are visible at every level of the system. The specialist institutions are overcrowded, understaffed, and under-resourced. The Pabna Mental Hospital, which is the largest psychiatric institution in the country, routinely operates well above its official capacity. The National Institute of Mental Health (NIMH) in Dhaka, which is simultaneously the leading clinical institution and the main training center for psychiatry in the

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country, lacks adequate space, equipment, and staff for its multiple and demanding functions. Community services do not exist at adequate scale. The medications available in public facilities are limited, with many important psychiatric drugs not on the essential medicines list or chronically out of stock when they are.

What would adequate mental health funding look like? The WHO and global mental health advocates have variously recommended that countries devote between 5 and 15 percent of health budgets to mental health, depending on the level of income and the existing burden of disease. For Bangladesh, even reaching 2 percent of the health budget would require roughly a fourfold increase in mental health spending. This is ambitious but not implausible if the political will exists. The economic case for investment in mental health is strong: the Lancet Commission on Global Mental Health and Sustainable Development (2018) estimated that the global economic return on investment in scaling up mental health treatment is approximately four dollars for every one dollar spent, through gains in productivity and reductions in the economic burden of untreated mental illness.

Bangladesh's health budget as a percentage of GDP is itself low by regional and global standards, which compounds the problem. Expanding mental health spending requires not only increasing its share of the health budget but also increasing the health budget itself. This is a longer-term fiscal challenge that goes beyond mental health policy alone, but it is a challenge that mental health advocates must be prepared to engage with, because the conversation about mental health financing cannot be separated from the broader conversation about Bangladesh's fiscal commitments to health and social welfare.

The financing of mental health care in Bangladesh also needs to consider the role of out-of-pocket expenditure. Bangladeshis pay a very high proportion of total health expenditure out of pocket, and the same is true for mental health care. This means that access to private psychiatric care, which is of higher quality and more available than public care, is determined largely by wealth. Wealthier urban Bangladeshis can access reasonable psychiatric care in the private sector. The majority of the population, particularly the rural poor, cannot. This inequality of access is itself a form of structural injustice that any adequate mental health financing reform must address.

The development of health insurance mechanisms that include mental health coverage is an important long-term priority. Bangladesh is gradually developing social health insurance schemes, including the Shasthya Surokkha Karyakram (health protection program) for the poorest households. Ensuring that mental health conditions are included in the benefit packages of these schemes, and that the coverage rates are adequate to make care genuinely affordable, is a critical advocacy priority.

103.4 The Mental Health Workforce: Scarcity, Distribution, and Development

Bangladesh has approximately 300 psychiatrists for a population of 170 million, giving a ratio of approximately 0.18 per 100,000 population. This is among the lowest ratios in the world. The recommended minimum is 1 per 100,000, which would require multiplying the current workforce by more than five. High-income countries have 9 to 12 psychiatrists per 100,000 or more. Even

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comparator countries in South Asia do significantly better: India has approximately 0.3 per 100,000 and Nepal approximately 0.22 per 100,000, both higher than Bangladesh.

The distribution of psychiatrists is even more problematic than the overall number. The great majority are based in Dhaka, with smaller concentrations in Chittagong, Rajshahi, and other divisional headquarters. Most districts have no psychiatrist at all. This means that for someone living in Barisal division or in the remoter parts of Mymensingh or Rangpur, seeing a psychiatrist requires travel of many hours or even days, with associated costs in money, time, and lost income that are prohibitive for most people with limited means.

The training pipeline for psychiatrists is inadequate. The MD Psychiatry program at BSMMU and the FCPS Psychiatry program of the Bangladesh College of Physicians and Surgeons together produce roughly 20 to 30 fully trained psychiatrists per year. Given the existing shortage and population growth, this rate of production is far too slow to close the gap within any reasonable timeframe. Expanding psychiatry training, creating distributed training programs at divisional medical colleges, and developing systems for postgraduate psychiatric training at regional centers are essential steps. The question of how to attract medical graduates into psychiatry, a specialty that suffers from low prestige and relatively low financial returns compared to surgical specialties or private medical practice, is also important. Improving the working conditions, salaries, and career structures for public sector psychiatrists would help.

Clinical psychology is in an even more precarious state. The number of trained clinical psychologists in Bangladesh is very small, and most of those who are trained work in academic settings rather than clinical ones. The training programs that do exist have historically been more oriented toward academic research than toward clinical competence, and the regulatory framework for clinical psychology practice is underdeveloped. The development of a properly regulated, clinically oriented clinical psychology profession, with clear training standards, supervised practice requirements, and a professional registration system, is an important institutional priority.

Psychiatric nursing is another critical gap. Nurses represent the frontline of care in any psychiatric service, and their quality of training and practice shapes the quality of care that patients receive more directly than almost any other factor. Yet psychiatry nursing training in Bangladesh is limited, and psychiatric nurses in the main institutions often work in conditions of severe understaffing and without adequate clinical supervision. Investment in psychiatric nursing training, and in improving the working conditions and professional status of psychiatric nurses, would yield significant returns in the quality of care available.

The strategy with the greatest potential for rapidly expanding the reach of mental health care, however, is not the expansion of specialist professionals but the effective training of non-specialist health workers in basic mental health care, a strategy known as task-sharing or task-shifting. This approach, which is recommended by the WHO's Mental Health Gap Action Programme (mhGAP) and has been tested in numerous settings including in Bangladesh, involves training primary care physicians, health assistants, community health workers, and other non-specialists to recognize and provide first-line management of the common mental disorders, and to refer more complex cases to specialists. The evidence from Bangladesh and

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other low-income countries shows that this approach is feasible and effective, though it requires ongoing supervision, support, and integration into clinical workflows.

The community health worker cadre in Bangladesh, specifically the shasthya shabikas (female health workers) and shasthya kormis who are attached to the community clinics, represents a potential platform for mental health task-sharing at enormous scale. These workers are already embedded in communities, trusted by the people they serve, and trained to address a range of primary health care functions. Adding basic mental health responsibilities, including screening for depression and anxiety, providing basic psychoeducation, facilitating referral, and providing simple problem-solving support, to their portfolio is conceptually straightforward. The challenge is training, supervision, and workload management.

103.5 Service Delivery: The Spectrum of Care That Bangladesh Needs

An adequate mental health service system covers the full spectrum of need, from mental health promotion and primary prevention at one end, through community-based treatment and psychosocial rehabilitation in the middle, to acute inpatient care and long-term residential support for those with the most severe and persistent conditions at the other. Bangladesh currently has elements at the most intensive end of this spectrum, a small number of inpatient facilities, and almost nothing at the community end. This is precisely the inverse of what the evidence says is most effective: a system heavily weighted toward institutional care, with a very small proportion of services delivered in community settings.

Transforming this configuration toward a community-based model is the central challenge of mental health system development in Bangladesh. This transformation requires several parallel developments. First, the expansion of outpatient mental health services at the district and upazila level, so that people can access assessment and treatment without traveling to Dhaka. Second, the establishment of community mental health teams in each district, capable of providing assertive outreach to people with severe mental illness, supporting families who are caring for relatives with mental illness, and providing ongoing monitoring and treatment for people who do not voluntarily attend clinics. Third, the development of psychosocial rehabilitation services, including supported employment, skills training, and social inclusion programs, for people with severe and persistent mental illness who need more than medication management. Fourth, the development of crisis services including crisis lines, mobile crisis teams, and short-stay crisis houses as alternatives to emergency inpatient admission for people in acute distress. And fifth, the development of supported housing for people who cannot live independently but do not require hospital-level care.

Each of these service types has been developed and tested in various countries and in limited ways within Bangladesh itself. The challenge is not knowing what needs to be built but rather mobilizing the resources, political will, and organizational capacity to build it. International experience suggests that this transformation is possible within a single generation, if the commitment exists. Italy transformed its mental health system from one dominated by large psychiatric hospitals to one based entirely on community services within approximately twenty years, following the 1978 Basaglia Law. Several Latin American countries, including Argentina and Paraguay, which are fellow participants in the WHO Special Initiative for Mental Health

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alongside Bangladesh, have made significant progress in community-based care development within the past decade. Bangladesh can learn from these experiences, adapting them to its own cultural context and resource constraints.

The integration of mental health into primary care deserves particular emphasis. Primary care is where most Bangladeshis with health problems first seek help, and it is where most common mental disorders (depression, anxiety, and substance use disorders) can and should be managed. The evidence from multiple Bangladesh pilot projects, including the work done under the Programme for Improving Mental Health Care (PRIME) and several NGO-led initiatives, shows that integrating mental health into primary care is both feasible and effective in the Bangladeshi context. What has been lacking is the political and institutional commitment to scale these pilots into a nationwide system. The mhGAP guidelines, which provide simplified diagnostic and treatment protocols specifically designed for non-specialist settings, provide a practical framework for this integration. Their full implementation across all upazila health complexes would represent a transformative step.

103.6 Essential Medicines and Technologies: The Supply Chain Challenge

Reliable access to essential psychiatric medications is a fundamental requirement of any adequate mental health system. People with schizophrenia who cannot reliably access antipsychotic medication will relapse. People with bipolar disorder who cannot access mood stabilizers will cycle through episodes of mania and depression with devastating consequences for their lives and their families. People with depression who cannot access antidepressants will suffer unnecessarily for months or years.

Bangladesh has made progress in including psychiatric medications in its essential medicines list, but significant gaps remain. Several critical medications are either not on the list or chronically unavailable in public facilities due to supply chain failures. Lithium, the most effective mood stabilizer and a medication with life-saving effects in bipolar disorder and as an adjunct in treatment-resistant depression, is not consistently available in public facilities. Clozapine, the only antipsychotic with proven superiority for treatment-resistant schizophrenia, is available in private sector pharmacies but is not reliably accessible in the public system and requires careful monitoring for potentially fatal agranulocytosis that is difficult to implement without regular blood testing. Long-acting injectable antipsychotics, which dramatically improve medication adherence in people with schizophrenia and are particularly valuable for those whose relapse is associated with stopping oral medication, are available but expensive and poorly accessible outside the main specialist centers.

The development of a robust pharmaceutical supply chain for psychiatric medications in the public sector, including regular procurement, storage under appropriate conditions, and distribution to peripheral facilities, is a technical challenge that requires sustained attention from DGHS and the Ministry of Health. The development of a system for monitoring psychotropic drug availability and consumption, which would allow supply chain failures to be identified and corrected, is an important component of the mental health information system that Bangladesh needs.

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Diagnostic technologies deserve mention in this context. Brain imaging, genetic testing, neuropsychological assessment batteries, and laboratory tests for the exclusion of organic causes of psychiatric symptoms are all elements of a comprehensive psychiatric investigation toolkit. In Bangladesh, access to brain imaging for psychiatric indications is extremely limited outside Dhaka and a few other urban centers, and the cost is prohibitive for most patients even where the technology is available. The development of pragmatic investigation protocols appropriate to different levels of the health system, which the clinical chapters of this textbook have addressed in detail, is essential for rational and affordable care.

103.7 Information and Research: Building the Knowledge Base for Evidence-Based Policy

Mental health systems cannot be governed rationally without good information. Policy-makers need to know how many people have mental disorders, where they are, what kinds of care they are receiving, what the outcomes of that care are, and whether the system is moving in the right direction. Health planners need to know where services are most needed and what the cost-effectiveness of different interventions is. Clinicians need feedback on the outcomes of their practice to improve their work. Researchers need to be able to build on a systematic accumulation of evidence rather than starting from scratch with each study.

Bangladesh has a very limited mental health information system. The national health information system collects data on some mental health indicators but the data quality is poor, coverage is incomplete, and the information is not routinely used for management or planning decisions. The National Mental Health Survey of 2019 was a major contribution to the knowledge base, but it was a cross-sectional survey conducted at a single point in time, and no similar survey has been conducted since. Routine health facility data on mental health consultations, diagnoses, treatments, and outcomes are not systematically collected, analyzed, or reported.

The WHO and global mental health advocates have called consistently for the development of national mental health observatories, which collect and analyze data on mental health across all sectors and use this information to guide policy and practice. Bangladesh needs something similar: a coordinated mental health information system that brings together data from hospitals and clinics, from community health workers, from the social welfare sector, from schools, and from research studies, and that uses this data to produce regular reports on the state of mental health in Bangladesh that can guide both policy and practice.

The research dimensions of this information challenge are addressed more fully in a later chapter of this part. Here it is sufficient to note that the information systems and the research enterprise are deeply connected: good routine information systems generate the data that researchers can analyze to address policy questions, and research studies provide the evidence base that information systems need to collect relevant indicators.

CHAPTER ONE HUNDRED AND FOUR: THE LAW, HUMAN RIGHTS, AND ETHICS OF MENTAL HEALTH CARE IN BANGLADESH: A CRITICAL ANALYSIS

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104.1 Why Law Matters for Mental Health

The law is not merely a technical instrument for regulating the practice of medicine. It is a statement of values, a reflection of what a society believes about the nature of mental illness, the rights of people with mental illness, the proper scope of medical authority, and the relationship between individual autonomy and social welfare. The history of mental health law, as previous chapters of this textbook have traced, is in significant part a history of legal frameworks being used to justify the confinement, control, and mistreatment of people with mental illness in the name of care. The contemporary reform of mental health law worldwide, of which Bangladesh's Mental Health Act 2018 is a part, reflects a hard-won recognition that the law must be reoriented from an instrument of control to an instrument of rights.

The relationship between law and mental health is complex in Bangladesh as everywhere. Law shapes what psychiatrists can and cannot do: it determines the conditions under which someone can be treated without their consent, the safeguards that must be in place when involuntary treatment is used, the rights of patients to information about their condition and treatment, the protections available to prevent abuse and exploitation, and the legal status of people with mental illness in relation to employment, marriage, property, and criminal responsibility. Law also shapes the broader social environment in which mental health is experienced: laws against discrimination protect people with mental illness from the most egregious forms of social exclusion, while the absence of such laws leaves them exposed.

104.2 The Mental Health Act 2018: An Assessment

The Mental Health Act 2018 (MHA 2018) replaced the colonial-era Lunacy Act 1912 after decades of advocacy by mental health professionals, human rights organizations, and people with lived experience of mental illness. The replacement was urgently needed: the Lunacy Act was designed primarily as a public order measure, treating people with mental illness primarily as potential threats to be contained, rather than as individuals with health needs and rights to be met. It contained no provisions for the rights of people with mental illness, no quality standards for the facilities in which they were treated, and no mechanisms for accountability.

The MHA 2018 represents a genuine advance on its predecessor, and it is important to acknowledge this progress honestly before turning to its limitations. The Act explicitly recognizes the rights of people with mental illness to health, dignity, education, property, and rehabilitation. It requires that mental health facilities meet minimum standards and that they be licensed and inspected. It establishes procedural safeguards for involuntary admission and treatment, including requirements for assessment by a psychiatrist and review by a board. It criminalizes the maltreatment of people with mental illness and the provision of false certificates. And it mandates the establishment of a National Mental Health Authority to oversee the system.

These are meaningful advances. But the MHA 2018 also has significant limitations that have been identified by mental health law scholars, human rights organizations, and practitioners. Several deserve detailed examination.

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The definition of mental illness in the Act is very broad, potentially encompassing conditions or behaviors that should not trigger psychiatric intervention. This breadth creates a risk of "diagnostic expansion" into social control, the same risk that has characterized the abuse of psychiatry in totalitarian contexts. The 2024 review of the state of mental health rights in Bangladesh, produced by the PsychRights organization, identified this definitional breadth as a significant human rights concern.

The involuntary admission and treatment provisions of the Act, while procedurally improved over the Lunacy Act, remain inconsistent with the standards set by the United Nations Convention on the Rights of Persons with Disabilities (CRPD), which Bangladesh ratified in 2007. The CRPD, as interpreted by the Committee on the Rights of Persons with Disabilities, requires that mental health treatment always be provided on the basis of free and informed consent and that legal capacity not be removed from people on the basis of mental health diagnosis. The MHA 2018 allows for involuntary treatment under certain conditions, which the CRPD Committee has consistently said violates the rights of persons with disabilities. This tension between the CRPD framework and traditional mental health law frameworks exists in virtually every country in the world, and Bangladesh is not exceptional in this respect. But it is a tension that needs to be acknowledged and worked through, rather than ignored.

The provision of the MHA 2018 that imposes criminal liability on psychiatrists who provide false certificates of mental illness has been criticized by some clinicians as potentially deterring legitimate diagnostic practice, particularly in a country where psychiatric diagnosis can have major legal and social consequences (including determinations of competence, guardianship, and criminal responsibility). The concern is that fear of criminal liability might discourage psychiatrists from conducting rigorous assessments, or might incentivize them to underdiagnose in cases of genuine ambiguity. This concern may be somewhat overstated, given the importance of combating the use of psychiatric diagnoses as instruments of property seizure or family control, which is a genuine problem in Bangladesh as in many South Asian countries. But it reflects a real tension in the law between the goal of protecting patients from fraudulent diagnosis and the practical realities of psychiatric assessment.

The implementation gap between the letter of the MHA 2018 and the reality of mental health care practice is enormous. Many of the provisions of the Act are simply not implemented in practice. The mental health facilities in Bangladesh, including the major psychiatric hospitals, continue to operate under conditions that fall far below the standards the Act requires. Patients in some facilities are subjected to physical restraints. Informed consent for treatment is often not properly obtained. Family members are given authority over treatment decisions without adequate consideration of the patient's own expressed preferences. Independent review of involuntary admissions is inconsistently conducted. These failures of implementation are not merely technical; they reflect deep institutional cultures within the mental health system that have not yet been transformed by the changed legal framework.

Addressing the implementation gap requires several parallel efforts. The National Mental Health Authority needs to become fully functional and adequately resourced to conduct regular inspections of mental health facilities and to enforce the standards the Act requires. Mental health professionals need training in the human rights dimensions of their practice, including the

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legal standards for obtaining informed consent, the criteria and procedures for involuntary treatment, and their obligations to report and address abuse. People with mental illness and their families need to know their rights under the Act and how to assert them, which requires public education and the development of legal aid services specifically for mental health matters.

104.3 The CRPD, Supported Decision-Making, and the Future of Mental Health Law

The United Nations Convention on the Rights of Persons with Disabilities has been the most important single development in the human rights framework for mental health over the past two decades. Bangladesh ratified the CRPD in 2007, committing itself to the Convention's requirements that persons with disabilities, including those with psychosocial disabilities arising from mental illness, be recognized as having legal capacity on an equal basis with others, and that state parties take appropriate measures to provide access to the support which persons with disabilities may require in exercising their legal capacity.

The key concept that the CRPD introduces in this context is "supported decision-making": the idea that when a person has difficulty making decisions independently because of a mental illness or other disability, the appropriate response is not to remove their decision-making authority and substitute the judgment of a guardian, clinician, or family member, but rather to provide support that enables the person to make their own decisions. Supported decision-making arrangements can take many forms: trusted advisors who help the person understand information and communicate their preferences; peer supporters who draw on their own lived experience; facilitators who help the person communicate when verbal communication is difficult; and advance directives or "psychiatric wills" that allow the person to express their treatment preferences in advance of a potential period of incapacity.

The transition from substituted decision-making, which is the traditional model in which others make decisions for people deemed incapable, to supported decision-making is one of the most contested issues in contemporary mental health law and ethics. Mental health professionals, lawyers, ethicists, and disability rights advocates hold genuinely different views on the extent to which the CRPD requires the complete abolition of all forms of involuntary treatment, and on the practical implications of a fully rights-based model for people with severe mental illness who may be at immediate risk of serious harm to themselves or others.

For Bangladesh, this debate has both theoretical and practical dimensions. Theoretically, Bangladesh must grapple with the question of how to align its mental health law with CRPD obligations. Practically, it must address the challenge of developing supported decision-making mechanisms in a context where the infrastructure for supporting people with mental illness, including independent advocacy services, peer support programs, and accessible legal aid, barely exists. The aspiration to move toward supported decision-making is important and right; the pathway to achieving it in the Bangladeshi context requires substantial institutional development.

The development of peer support as a formal element of the mental health system deserves particular emphasis in this context. People who have lived through mental illness and recovery bring knowledge, empathy, and credibility that no professional can fully replicate. Peer support

has been shown across multiple settings to improve engagement with services, promote recovery, and reduce the isolation and stigma that people with mental illness often experience. In Bangladesh, informal peer support happens through families, communities, and faith communities, but formal, structured peer support programs are rare. The development of a trained peer support workforce, with proper recognition, remuneration, and organizational support, is an important priority for the mental health system.

104.4 Forensic Psychiatry and Mental Health Law: The Interface with Criminal Justice

The interface between mental health and the criminal justice system deserves specific attention. People with mental illness are significantly overrepresented in the prison population in Bangladesh and in most other countries, reflecting both the criminalization of behaviors associated with mental illness (including substance use and some forms of nuisance or threatening behavior) and the failure of mental health services to adequately support people with mental illness in the community. Prisons are not appropriate therapeutic environments for people with mental illness; the conditions of confinement typically worsen psychiatric conditions rather than ameliorating them, and the absence of specialized mental health services in most Bangladeshi prisons means that people with serious mental illness may go untreated throughout their incarceration.

The legal concept of "not guilty by reason of insanity" or its equivalent, which exists in Bangladeshi law under the Penal Code, is rarely invoked and poorly understood by both legal practitioners and mental health professionals. When it is invoked, the procedures for assessment, the criteria to be applied, and the disposal options available to courts are often unclear. The development of a formal forensic psychiatry service, with trained forensic psychiatrists, clear assessment protocols, and appropriate disposal options for mentally disordered offenders, is a priority that has been consistently identified in discussions of mental health system development in Bangladesh but has yet to be adequately addressed.

The broader question of how to divert people with mental illness away from the criminal justice system before charges are laid or before incarceration occurs is equally important. This requires the development of police training in mental health crisis recognition and de-escalation, mental health liaison services attached to courts and police stations, and alternatives to incarceration for people whose offending is clearly related to their mental illness. These are not minor adjustments to existing systems; they require coordinated reform of both the mental health system and the criminal justice system.

104.5 The Ethics of Coercive Treatment: A Continuing Debate

No topic in psychiatric ethics generates more controversy than the use of coercive or compulsory treatment: the administration of treatment to a person who has not consented to it, or the detention of a person in a psychiatric facility against their will. This controversy is not a recent development; it has been central to debates about psychiatry since the anti-psychiatry movement of the 1960s and 1970s. But it has intensified in recent decades with the development of the CRPD framework and the growing influence of the service user and survivor movement.

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The case for the possibility of coercive treatment, carefully circumscribed and subject to rigorous safeguards, rests on several arguments. First, severe mental illness can profoundly impair the capacities that are necessary for autonomous decision-making: the ability to understand information, to appreciate its relevance to one's own situation, to reason about alternatives, and to communicate a consistent choice. When these capacities are severely impaired, the person's expressed refusal of treatment may not reflect their authentic preferences and values, but rather the distortion of their thinking by the illness itself. Second, untreated severe mental illness can result in serious harm to the person themselves, including death by suicide, severe self-neglect, and permanent functional deterioration, and in some cases to others. The principle of beneficence requires that clinicians take seriously the possibility that treatment, even treatment administered without the person's immediate consent, may be in their genuine interest. Third, the experience of many people who have been treated involuntarily during psychotic or manic episodes, and who have subsequently recovered, is that they are grateful that treatment was provided when they were unable to consent to it themselves, though this observation needs to be balanced by the experience of many others who experienced involuntary treatment as traumatic and who report that it damaged their trust in mental health services.

The case against coercive treatment, or for very stringent limits on it, is also powerful. First, the legal capacity assessment that justifies coercive treatment is often conducted poorly, without adequate training or procedural safeguards, and may be influenced by clinicians' prior judgments about the appropriateness of the treatment being imposed rather than by a genuine assessment of the person's decision-making capacity. Second, coercive treatment has been and continues to be used as an instrument of social control, to manage people who are distressing to their families or communities but who are not genuinely unable to make their own decisions, and to enforce social conformity under the guise of medical treatment. Third, coercive treatment, even when clinically justified, often has long-lasting negative effects on the therapeutic relationship, on the person's willingness to engage with mental health services in the future, and on their sense of autonomy and dignity. Fourth, the CRPD framework, as interpreted by the UN Committee on the Rights of Persons with Disabilities, holds that the removal of legal capacity on the basis of mental health diagnosis is incompatible with the CRPD, regardless of the safeguards in place.

There is no easy resolution to this debate, and it would be dishonest to pretend otherwise. The field is genuinely divided, and the division reflects not only different empirical judgments about the effectiveness and risks of coercive treatment but also fundamentally different values about the relative importance of autonomy and beneficence in the context of severe mental illness. What the debate demands is that coercive treatment, wherever it is used, be subject to the most rigorous possible safeguards, that its use be minimized through the development of alternatives, and that the perspectives of people with lived experience be central to the ongoing deliberation about its appropriate boundaries.

CHAPTER ONE HUNDRED AND FIVE: PUBLIC MENTAL HEALTH: EPIDEMIOLOGY, PREVENTION, AND POPULATION-LEVEL APPROACHES

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105.1 What Is Public Mental Health?

Public mental health is the application of public health principles and methods to the domain of mental health. Just as public health more broadly is concerned not only with the treatment of sick individuals but with the health of populations, with the social, environmental, and behavioral factors that determine health, and with the policies and programs that can improve health at scale, public mental health is concerned with the mental health of populations, with the determinants of that health, and with strategies for improving it across entire communities and countries.

This population perspective is not merely an academic supplement to clinical psychiatry; it is essential to the effective response to the mental health burden in Bangladesh. Bangladesh has approximately 28 million adults with mental disorders at any given point in time. Even if the mental health system could be dramatically expanded, it could not reach all of these people through specialist clinical services. The mathematics of scale demand a public health approach: strategies that can be delivered by non-specialists, that can be implemented at community level, and that can prevent mental disorders as well as treating them.

The epidemiological framework for public mental health distinguishes between three levels of intervention. Primary prevention aims to prevent the onset of mental disorders by addressing risk factors and strengthening protective factors in the population. Secondary prevention aims to reduce the burden of existing disorders by detecting them early and treating them promptly before they become severe and chronic. Tertiary prevention aims to reduce the burden of established disorders by preventing complications, disability, and mortality. All three levels are relevant in Bangladesh, though the emphasis has been almost entirely on tertiary prevention in the form of hospital-based care for the most severely ill. A genuine public mental health agenda requires much greater investment in primary and secondary prevention.

105.2 The Determinants of Mental Health in Bangladesh: A Structural Analysis

Understanding the population determinants of mental health in Bangladesh requires a structural analysis that goes beyond individual risk factors to examine the social, economic, political, and environmental conditions that shape the mental health of the population as a whole.

Poverty remains the most powerful single determinant of poor mental health in Bangladesh. The mechanisms through which poverty damages mental health are multiple and intersecting. Poverty creates chronic stress through the daily struggle to meet basic needs, insecurity about food, shelter, and income, and the psychological burden of scarcity. It restricts access to resources, including health care, education, and social participation, that protect mental health. It increases exposure to adverse events including violence, family conflict, and bereavement. And it produces the psychologically corrosive experience of stigma, powerlessness, and social exclusion.

The relationship between poverty and mental health is bidirectional, creating a mutually reinforcing cycle. Mental illness increases the risk of poverty by impairing functioning, reducing earning capacity, disrupting family relationships, and incurring health expenditure. The families

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of people with severe mental illness often experience catastrophic financial consequences: they spend their savings, sell their assets, take on debt, and reduce their productive activities to provide care. Children in these families are at elevated risk of school dropout and lost opportunity. Breaking this cycle of poverty and mental illness requires both economic interventions that reduce poverty and mental health interventions that restore functioning.

Gender inequality is the second most important structural determinant of mental health in Bangladesh. Women's mental health is shaped at every level by their subordinate social position. The normative expectation that women will be wives and mothers before anything else constrains their aspirations and limits their opportunities. The prevalence of intimate partner violence, which affects the majority of married women in Bangladesh, creates an ongoing experience of threat and victimization that is profoundly damaging to mental health. The dowry system, which continues to operate widely despite legal prohibition, creates financial pressure on women's families and creates a context in which women who cannot bring adequate dowry are subjected to harassment, violence, and sometimes killing. Early and forced marriage deprives girls of education, autonomy, and the ability to develop the psychological resources that promote resilience.

Climate change is an increasingly important determinant of mental health in Bangladesh and is likely to become more important in the coming decades. The mental health consequences of climate change operate through multiple pathways. Acute climate disasters, including the cyclones and floods to which Bangladesh is extremely vulnerable, cause direct psychological trauma, grief over the loss of family members and property, and displacement that disrupts the social support networks that protect mental health. Slow-onset climate processes, including salinity intrusion into agricultural land, coastal erosion, and the progressive loss of livelihoods dependent on fishing, farming, or the Sundarbans ecosystem, create chronic stress, economic insecurity, and forced migration that damage mental health in ways that are less visible than acute disasters but no less real. Heat stress, which is worsening rapidly in Bangladesh with increasing average temperatures and more frequent and intense heat waves, has direct neurobiological effects on mood and cognition and is associated with increased rates of violence, suicide, and psychiatric hospitalization in multiple settings.

Urbanization, which is proceeding rapidly in Bangladesh with the growth of Dhaka and other cities, creates both opportunities and mental health risks. Urban life offers economic opportunity, access to services, and social diversity, all of which can promote mental health. But it also creates crowding, pollution, noise, social isolation, the disruption of traditional social support networks, and exposure to new stressors including traffic violence, workplace hazards, and the psychological demands of navigating complex and often hostile urban environments. The mental health of slum dwellers in Dhaka and other Bangladeshi cities is particularly concerning: they experience the economic hardship of poverty combined with the stresses of urban overcrowding, without the social support networks that provide some protection to people in rural communities.

The political environment is another important determinant of population mental health that tends to be overlooked in discussions of mental health epidemiology. Bangladesh's long history of political violence, including the Liberation War trauma of 1971, subsequent cycles of political

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assassination and military intervention, and more recent episodes of political violence and repression, has left deep marks on the collective psychology of the nation. The student-led uprising of 2024 and its aftermath represent the most recent episode in this history, with complex mental health consequences that include both the trauma of those who experienced violence and repression and the hope and collective efficacy experienced by those who participated in a movement that achieved its goals.

105.3 Mental Health Promotion: Building Population-Level Protective Factors

Mental health promotion is the process of enabling people to increase control over their mental health and to improve it. It operates at individual, community, and structural levels, and it focuses on building protective factors rather than simply reducing risk factors.

At the individual level, mental health promotion involves building the skills and capacities that protect against mental disorder. These include emotional regulation skills, problem-solving abilities, the capacity to seek and use social support, and the development of a sense of self-efficacy and agency. Life skills education programs in schools, which teach children these capacities in age-appropriate ways, have been shown across multiple settings to reduce rates of depression, anxiety, and substance use and to promote social competence. Bangladesh has developed national school curriculum frameworks that include some elements of social-emotional learning, supported by UNICEF through collaborative programs with the Ministry of Education, but the implementation has been uneven and the quality of delivery is variable.

At the community level, mental health promotion involves creating social environments that support mental health. Strong social connections, participation in community life, access to meaningful roles and activities, and the experience of belonging are all protective factors for mental health. Community development programs that build social capital, promote civic participation, and address social isolation can have significant mental health benefits. The evidence for the mental health benefits of community cohesion is strong, and Bangladesh's tradition of strong community life in many rural areas represents a social capital that public mental health programs should seek to strengthen rather than undermine.

The workplace is an increasingly important setting for mental health promotion as the formal labor market in Bangladesh grows. The garment industry alone employs over four million workers, predominantly women, and the working conditions in many factories, including high production pressure, limited breaks, poor ventilation and heat, shift work, and lack of job security, are associated with elevated rates of depression, anxiety, and burnout. Workplace mental health programs that address these conditions, including policies to limit excessive overtime, provide access to confidential counseling, train supervisors in mental health awareness, and create psychologically safe working environments, have been shown to be cost-effective in reducing mental health-related absenteeism and productivity loss. The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and international brands that source from Bangladesh have some leverage to improve workplace mental health through their supply chain requirements, but this leverage has been inconsistently applied.

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The digital environment is a rapidly growing arena for mental health promotion in Bangladesh. Smartphones are now widely owned across most age groups, and digital platforms including Facebook, YouTube, and TikTok reach hundreds of millions of people in Bangladesh. These platforms can be used to deliver mental health education, reduce stigma, promote help-seeking, and provide access to digital mental health tools. Several Bangladeshi NGOs and health organizations have developed social media campaigns addressing mental health stigma and promoting help-seeking with positive results. The design and implementation of evidence-based digital mental health promotion strategies, tailored to Bangladeshi cultural contexts and delivered through the platforms that Bangladeshis actually use, is an important and underexplored priority.

105.4 Prevention of Specific Mental Disorders: What the Evidence Shows

While mental health promotion aims to improve population mental health broadly, the prevention of specific mental disorders has a more targeted focus. The preventive psychiatry literature has identified several conditions for which prevention strategies with good evidence bases exist and that are particularly relevant in the Bangladeshi context.

Depression prevention is perhaps the most important, given the high prevalence of depression in Bangladesh and the well-established risk factors that could in principle be addressed through prevention programs. Interventions that reduce exposure to intimate partner violence, which is the single strongest risk factor for depression among Bangladeshi women, would have the greatest preventive impact. These require not only mental health interventions but fundamental changes in gender norms, legal enforcement, and economic empowerment. Perinatal depression prevention is another priority: programs that identify women at high risk during pregnancy, provide enhanced social support, and offer early psychological intervention have been shown in several Bangladeshi trials to reduce rates of postnatal depression with modest resources.

Suicide prevention in Bangladesh requires particular attention given the high rates of suicide particularly among young rural women and the specific methods, predominantly organophosphate pesticide ingestion, that characterize Bangladeshi suicides. The evidence base for suicide prevention is now substantial and includes several interventions that are feasible in the Bangladeshi context. Means restriction, specifically restricting access to highly toxic organophosphate pesticides, is the most effective single intervention: reducing the availability of the most lethal means of suicide reduces suicide completion rates without simply displacing to other means, as multiple natural experiments from Bangladesh and other South Asian countries have confirmed. Bangladesh has taken some steps to restrict the most toxic pesticides, but these restrictions have been unevenly enforced and have not yet been implemented comprehensively.

Safe messaging guidelines for media coverage of suicide are another evidence-based prevention strategy. Detailed and sensationalized coverage of suicides, particularly of celebrities or by novel methods, has been shown to increase imitation suicides. Bangladesh media organizations have increasingly adopted safe messaging principles in recent years, partly through the advocacy of suicide prevention organizations and partly through awareness-raising programs directed at journalists. But the implementation is inconsistent, and the explosion of social media

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has created new challenges for safe messaging that traditional media guidelines cannot fully address.

Gatekeeper training, which involves training people in community settings to recognize the signs of suicidal crisis and to provide a supportive response and facilitate referral, is another important strategy. Multiple studies have shown that gatekeeper training reduces suicidal behavior when implemented at scale. In Bangladesh, community health workers, school teachers, imam and religious leaders, and community leaders are all potential gatekeepers who could be trained to identify and respond to suicidal crisis with relatively modest investment.

The prevention of substance use disorders, particularly alcohol, yaba, and tobacco use, is an important public health priority with mental health implications. The evidence that tobacco use is causally associated with depression and anxiety as well as with the physical health conditions it causes is now strong. Effective tobacco control policies, including taxation, advertising restrictions, plain packaging, and smoking cessation support, are among the most cost-effective mental health prevention strategies available. Bangladesh has implemented many of these policies but the implementation and enforcement remain incomplete.

Child maltreatment prevention is another essential element of a comprehensive mental health prevention strategy. Child abuse and neglect are among the most powerful predictors of adult mental disorder, and the consequences of childhood maltreatment, including elevated rates of depression, anxiety, PTSD, substance use disorders, personality disorders, and even psychosis, persist throughout the life course. Parenting programs that build parenting skills and reduce the use of physical punishment have been shown in multiple low- and middle-income country settings to reduce child maltreatment and to improve child mental health outcomes. Bangladesh has piloted several such programs, with positive results. Scaling these programs nationally would require integration into the existing health visitor and community health worker system.

CHAPTER ONE HUNDRED AND SIX: COMMUNITY MENTAL HEALTH IN BANGLADESH: THE THEORY, THE EVIDENCE, AND THE PATH TO SCALE

106.1 The Community Mental Health Movement: Origins and Core Principles

The community mental health movement has its intellectual origins in several converging streams: the critique of the asylum by reformers like Basaglia in Italy and Laing in Britain; the psychopharmacological revolution that made outpatient management of severe mental illness possible; the civil rights movement and the growing recognition that people with mental illness had been systematically deprived of their rights; and the economic pressure on governments to reduce the cost of institutional care. In high-income countries, deinstitutionalization and the development of community services proceeded in parallel, with varying degrees of success, from the 1960s onward.

In low-income countries including Bangladesh, the trajectory has been different. There has never been a large institutional psychiatric system to deinstitutionalize. Bangladesh has always had

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very limited specialist mental health services, concentrated in a small number of institutions and overwhelmingly inaccessible to the majority of the population. The challenge in Bangladesh is therefore not to dismantle an existing system and replace it with a community alternative, but to build community mental health services essentially from nothing, in the context of a primary care system that has never included mental health as part of its core function.

The core principles of community mental health, as they have been developed and refined over the past six decades, include several that are particularly relevant to the Bangladeshi context. Care should be provided as close to the person's home and community as possible, rather than requiring travel to distant institutions. Care should be provided in the least restrictive setting consistent with the person's needs and safety. People with mental illness should be supported to live in ordinary housing in the community, rather than in segregated institutions. Family members and communities should be engaged as partners in care, rather than excluded from it. Services should be recovery-oriented, focused on supporting people to achieve their own goals for a satisfying life, rather than simply managing symptoms. And people with lived experience should be involved in the design and delivery of services.

These principles are aspirational in the current Bangladeshi context. But they provide a framework for the direction of travel, and several of them have practical relevance even at the current very limited state of development.

106.2 Community Mental Health in Practice: What Works in Bangladesh

A growing body of evidence, largely generated by academic researchers and NGOs working in Bangladesh, demonstrates that community-based mental health interventions can be both effective and feasible in the Bangladeshi context. Several of these interventions deserve detailed consideration, both for their practical implications and for the lessons they offer about the adaptation of global evidence to local realities.

The PRIME (Programme for Improving Mental Health Care) Bangladesh study, which ran from 2012 to 2018, was one of the most important contributions to the evidence base for community mental health in Bangladesh. PRIME developed and tested a "mental health care plan" for integration into primary health care in Chakaria, a rural upazila in Cox's Bazar district. The plan included training for primary care providers in the detection and management of common mental disorders using mhGAP guidelines, the development of a mental health coordinator role, the adaptation of psychological interventions for use by non-specialists, and a community component involving awareness-raising and stigma reduction. Results showed improvements in the detection of depression and other common disorders, increased access to evidence-based treatment, and improvements in patient outcomes compared to control areas.

The Strong Minds program, which delivers group-based interpersonal therapy (IPT-G) for women with depression, has been implemented in Bangladesh with promising results. IPT-G, originally developed as an individual therapy and adapted for group delivery in Uganda, has been shown across multiple low- and middle-income country settings to reduce depression symptoms significantly in women. The group format makes it much more scalable than individual therapy, as a single trained facilitator can work with a group of eight to twelve women

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simultaneously. In Bangladesh, IPT-G has been adapted to local cultural contexts, including attention to the specific interpersonal challenges that Bangladeshi women face, and has been delivered by community health workers with modest training.

The Friendship NGO, operating in remote chars (river islands) and other underserved areas in Bangladesh, has developed community-based mental health programs that integrate mental health into its broader health and development work. This integration reflects an important principle: in settings where mental health-specific services are absent, integrating mental health into existing community organizations and programs is more feasible and potentially more sustainable than building standalone mental health services.

Several studies have specifically examined the mental health needs and service development for the Rohingya refugee population in Cox's Bazar, where multiple NGOs and UN agencies have developed psychosocial support and community mental health programs under conditions of extreme challenge. The learnings from this emergency context, about how to adapt evidence-based interventions to settings of extreme resource constraint, cultural difference, and ongoing adversity, are relevant to mental health service development more broadly in Bangladesh.

106.3 The mhGAP Program: Potential and Limitations in Bangladesh

The Mental Health Gap Action Programme (mhGAP), launched by WHO in 2008, is the most systematically developed global framework for scaling up mental health care in low- and middle-income countries through non-specialist providers. The mhGAP Intervention Guide, now in its third edition, provides simplified clinical algorithms for the assessment and management of priority mental health conditions, including depression, anxiety, psychosis, bipolar disorder, epilepsy, alcohol and substance use, self-harm and suicide, and child and adolescent mental health conditions. These algorithms are designed to be used by non-specialist health workers with relatively brief training, and they have been tested and adapted across a wide range of settings.

Bangladesh has implemented mhGAP training in several contexts, including through the WHO Special Initiative for Mental Health, through academic institutions, and through NGO programs. The evidence from Bangladesh suggests that mhGAP training can improve knowledge and skills among primary care providers, but that training alone is not sufficient to change practice: sustained implementation of mhGAP requires ongoing supervision and support, integration into clinical workflows, availability of essential medicines, and organizational and managerial support from health facility leadership.

The limitations of mhGAP as a framework for Bangladesh are also worth noting. The mhGAP guidelines were developed primarily from the evidence base generated in high-income countries, and while they have been adapted through global consultation processes, their cultural relevance for specific populations including Bangladeshis is imperfect. The diagnostic algorithms do not capture the full range of culturally specific presentations of distress in Bangladesh, including the somatic idioms of depression and anxiety, dhat syndrome, and the complex presentations at the interface of psychiatric disorder and spirit possession. The treatment protocols are primarily biological (medication) and briefly psychological (problem-

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solving therapy), and do not adequately address the social dimensions of mental illness or the need for family engagement.

Adapting mhGAP for the Bangladeshi context, incorporating local idioms of distress, culturally appropriate assessment approaches, and enhanced family and community engagement components, is an important research and policy priority. Several research groups in Bangladesh have been working on this adaptation, and the results are promising but need to be integrated into a national implementation strategy.

106.4 Task-Sharing: The Architecture of a Scalable Community Mental Health System

The concept of task-sharing, or task-shifting, is central to any realistic strategy for expanding mental health care coverage in Bangladesh. In a setting where there are approximately 0.18 psychiatrists per 100,000 population and the specialist psychiatry workforce is unlikely to grow fast enough to meet population needs within the next generation, the only way to dramatically expand coverage is to train and support non-specialist workers to deliver a range of mental health functions that have traditionally been the exclusive province of specialists.

Task-sharing does not mean diluting quality or providing poor care. It means matching the level of provider expertise to the level of clinical complexity required. The majority of people with common mental disorders, including mild to moderate depression, anxiety, and the mental health consequences of common life stressors, do not need specialist care: they need someone who can recognize their condition, provide accurate information about it, offer simple evidence-based support, and facilitate referral if needed. A well-trained community health worker or primary care physician can meet these needs if they have the training, the tools, and the supervisory support.

The tier model of care, in which different levels of the health system address different levels of clinical complexity, is the organizing framework for task-sharing. At the community level, community health workers and volunteer community members provide psychoeducation, peer support, and recognition of people who may need referral. At the primary care level, trained physicians and nurses provide first-line assessment and treatment of common disorders using mhGAP-style protocols, and refer more complex cases to district level. At the district level, district hospitals have at least one trained physician with enhanced mental health skills who can manage a wider range of presentations and provide supervision and support to primary care. At divisional and national levels, specialist psychiatric services provide assessment and management of complex and treatment-resistant cases and provide training and supervision to lower tiers.

This tier model is conceptually straightforward, but its implementation requires sustained investment at each level, a functioning referral and counter-referral system between tiers, a supervision and support system for non-specialist providers, and quality assurance mechanisms to ensure that the care provided at each level meets minimum standards. These systems do not yet exist in Bangladesh at scale, but the architecture for building them is clear, and the investment required, though significant, is a fraction of what would be required to build a specialist-led system adequate to population needs.

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CHAPTER ONE HUNDRED AND SEVEN: RESEARCH IN PSYCHIATRY AND BEHAVIORAL SCIENCE IN BANGLADESH: BUILDING THE NATIONAL KNOWLEDGE BASE

107.1 Why Bangladesh Needs Its Own Research

The case for investing in mental health research in Bangladesh is not primarily one of national prestige or academic ambition, though these are not entirely irrelevant considerations. The case is practical and urgent. Bangladesh's mental health challenges are distinctive in ways that make the evidence generated in other settings, particularly high-income Western settings, only partially applicable. The cultural context, the epidemiological profile, the health system structure, the available resources, and the social determinants of mental health in Bangladesh are sufficiently different from those in high-income countries that clinical protocols, service models, and policy frameworks developed elsewhere need to be rigorously tested and adapted rather than simply imported.

Without a strong national research base, Bangladesh is dependent on evidence generated elsewhere and is unable to generate the locally relevant knowledge that effective policy and practice require. It cannot evaluate whether interventions that work in Uganda or Sri Lanka are effective in Bangladesh. It cannot monitor changes in the epidemiology of mental disorders over time. It cannot identify the risk factors most important in the Bangladeshi context. It cannot evaluate whether its policies and programs are achieving their intended effects. And it cannot contribute to the global knowledge base in ways that would strengthen both its own credibility and the quality of global evidence.

The research capacity of Bangladesh in mental health has grown significantly in recent years, driven by the efforts of committed researchers at BSMMU, the National Institute of Mental Health, several private medical universities, and a growing number of public health schools. Bangladesh researchers are now publishing in international peer-reviewed journals at a rate that was unimaginable a decade ago, and the quality of the research is improving as researchers gain experience and as international collaborations mature. But the capacity remains far below what the country needs, and the research agenda that has emerged has been shaped more by what researchers trained in particular traditions are interested in than by a systematic assessment of what questions most urgently need answering.

107.2 The Research Agenda: What Bangladesh Most Needs to Know

Setting a national mental health research agenda requires a process that goes beyond the preferences of academic researchers to engage policy-makers, clinicians, service users, community members, and public health professionals in identifying the questions that most urgently need answering. Several processes of this kind have been attempted globally, including the Priority Setting Partnership approach developed by the James Lind Alliance, and similar approaches could be applied in Bangladesh. Here, we suggest an outline of a research agenda based on the analysis presented throughout this textbook.

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Epidemiological research is urgently needed. The National Mental Health Survey of 2019 was an important contribution, but it is now seven years old, it did not adequately cover all population groups, and it did not capture the full range of mental health problems including the subclinical burden of suffering that does not meet diagnostic thresholds. A new national mental health survey, using culturally adapted instruments that capture local idioms of distress as well as ICD-11 diagnostic categories, and that adequately samples vulnerable populations including the rural poor, slum dwellers, the Rohingya refugee population, and indigenous communities, is a high priority.

Routine mental health information systems research is also needed. Bangladesh needs to develop a system for routinely collecting, analyzing, and reporting mental health data across the health system, and this requires research on what data to collect, how to collect it reliably, and how to use it for management and policy decisions. Health information system research in Bangladesh has largely focused on physical health, and the specific challenges of mental health data collection, including the sensitivity of mental health information and the diagnostic complexity of mental health conditions, require specific attention.

Implementation research is perhaps the most urgent priority. Bangladesh has an evidence base, largely generated in other settings but increasingly tested locally, for a range of mental health interventions. What is lacking is knowledge about how to implement these interventions effectively and at scale in the specific institutional, cultural, and resource context of Bangladesh. Implementation research asks not "does this intervention work?" but "how can this intervention be made to work in this specific context?" It addresses questions about fidelity and adaptation, about the training and supervision systems that support effective implementation, about the organizational and managerial conditions that enable or impede implementation, and about the costs and financing of implementation at scale.

Health systems research is closely related to implementation research and addresses the system-level questions that determine whether individual interventions can be delivered at scale. How should the mental health system be organized to maximize coverage and quality? What is the optimal role of community health workers, primary care physicians, and specialists in a tiered system? How can the mental health system best engage with traditional and religious healers? What governance mechanisms are most effective for ensuring accountability and quality in mental health services? How can the mental health information system be designed to support management and policy decisions?

Social and cultural research on mental health in Bangladesh is a growing field and an important one. The cultural dimensions of mental health, including local idioms of distress, explanatory models of mental illness, help-seeking pathways, the role of stigma, and the interactions between psychiatric and traditional healing systems, have been studied by a small but growing group of social scientists and medical anthropologists. This research is essential for the adaptation of globally developed interventions to the Bangladeshi context and for understanding why interventions that work in other settings may not work as expected in Bangladesh.

Clinical research on the pharmacological and psychological treatment of mental disorders in Bangladeshi populations is needed to generate locally relevant evidence on treatment

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effectiveness, safety, and tolerability. Bangladeshi patients may differ from Western populations in their responses to medications, both because of genetic differences in drug metabolism (pharmacogenomics) and because of differences in body composition, diet, and patterns of comorbidity. Bangladeshi populations may also differ in their responses to psychotherapeutic interventions, because the cognitive and relational frameworks on which these interventions draw are culturally specific.

Research on the mental health consequences of climate change in Bangladesh is an emerging priority that has been too little addressed. Bangladesh is one of the countries most vulnerable to climate change, and it is also one of the countries that has least capacity to understand and respond to the mental health consequences of that vulnerability. Research on the psychological impact of cyclones, floods, coastal erosion, and internal climate migration, and on the development and testing of mental health responses to these challenges, is urgently needed.

107.3 Research Capacity Building: What Bangladesh Needs

Generating the research agenda described above requires a substantial investment in research capacity. This means investing in the training of a new generation of mental health researchers, in the development of institutional infrastructure for research, and in the funding mechanisms that can sustain a productive research enterprise.

Researcher training is the foundational challenge. Bangladesh produces relatively few mental health researchers with the methodological skills, the institutional support, and the protected research time needed to conduct high-quality research. Training programs in clinical research methods, epidemiology, health services research, and qualitative research for mental health professionals are needed. Mentorship programs that connect early-career Bangladeshi researchers with experienced researchers, both within Bangladesh and internationally, are important for developing research skills and for providing the intellectual community that productive research requires.

Institutional infrastructure includes research databases, laboratory facilities for biological research, data management and statistical analysis support, and dedicated research units within academic and clinical institutions. BSMMU has some of this infrastructure, but it is under-resourced and unevenly distributed across the country.

Funding for mental health research in Bangladesh has come primarily from international sources: the Wellcome Trust, the UK Medical Research Council, NIMH in the United States, and several bilateral development agencies have all funded important mental health research in Bangladesh. This international funding has been enormously valuable, but it creates dependencies and shapes research agendas in ways that may not always align with Bangladesh's own priorities. The development of a national research funding mechanism for health research, including mental health, that is adequately funded and has transparent, competitive peer-review processes, is an important institutional priority.

International research collaboration is both an opportunity and a challenge. Collaboration with high-income country researchers provides access to expertise, training, resources, and

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publication in high-impact journals. But if collaboration is structured in ways that position Bangladeshi researchers as data collectors for foreign research teams rather than as intellectual leaders and co-investigators, it can reinforce rather than address the asymmetries of the global research system. The growing movement for "equitable research partnerships" in global health, which insists on genuine intellectual equity between partners in different income settings, is directly relevant to mental health research in Bangladesh.

CHAPTER ONE HUNDRED AND EIGHT: THE EMERGING FRONTIERS OF PSYCHIATRY: DIGITAL MENTAL HEALTH, PRECISION PSYCHIATRY, NEUROPSYCHIATRY, AND THE FUTURE

108.1 Digital Mental Health: Promise, Evidence, and the Bangladesh Context

The rapid expansion of smartphone and internet access in Bangladesh over the past decade has created unprecedented opportunities for the delivery of mental health care and information through digital platforms. Bangladesh had over 180 million mobile phone subscriptions in 2024 and mobile internet penetration is growing rapidly across all socioeconomic groups. For a country with a severe shortage of specialist mental health professionals and a widespread geographic maldistribution of services, digital technologies represent a potentially transformative platform for expanding access to mental health support.

Digital mental health encompasses a wide range of interventions and technologies. At the simplest level, digital platforms can be used to deliver mental health information and psychoeducation through websites, social media, and messaging applications. More complex digital mental health interventions include smartphone applications that deliver structured psychological treatment programs such as cognitive-behavioral therapy for depression or anxiety; conversational agents (chatbots) that provide support and information to people in distress; remote consultation platforms that enable video or voice consultations with mental health professionals; digital symptom monitoring tools that allow people to track their mood and other mental health indicators over time; and crisis support services that provide immediate text or voice support to people in acute distress.

The evidence base for digital mental health has expanded substantially in recent years. A 2024 meta-analysis of digital mental health interventions for depression found significant effects on depressive symptoms compared to control conditions, with effect sizes in the moderate range. Smartphone-delivered CBT for anxiety and OCD has also shown positive effects in randomized controlled trials. Telepsychiatry, the delivery of psychiatric consultations by video link, has been shown to be broadly comparable in effectiveness to in-person consultation for many conditions and can dramatically expand geographic access in settings where specialist services are concentrated in urban centers.

However, several important caveats apply to the translation of this evidence to the Bangladeshi context. Most of the research on digital mental health has been conducted in high-income countries, with largely literate, technically proficient populations who have reliable high-speed

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internet access. In Bangladesh, digital literacy is uneven, internet connectivity is unreliable outside urban areas, smartphones are more common than computers, and the interventions need to be available in Bangla and other local languages rather than English. Furthermore, the mental health apps and digital tools that currently exist are almost entirely developed for Western markets and lack cultural adaptation for Bangladeshi users.

Developing culturally adapted digital mental health tools for Bangladesh is a research and development priority. This requires not simply translating existing tools into Bangla but re-designing them to be appropriate for Bangladeshi users, including attention to local idioms of distress, the role of family and religion, appropriate visual and narrative styles, and the specific mental health challenges that Bangladeshis face. Several Bangladeshi technology companies and academic institutions have begun work on locally developed mental health apps, and international collaborations on this agenda are growing.

The potential for digital platforms to address mental health stigma in Bangladesh is particularly notable. Stigma is one of the most significant barriers to help-seeking for mental disorders in Bangladesh, and it operates partly through social visibility: seeking help from a mental health professional requires attending a clinic, which is publicly visible and may expose the person and their family to stigmatizing judgments. Digital mental health tools that can be accessed privately on a smartphone bypass this barrier, allowing people to engage with mental health support without fear of social exposure. Social media campaigns, online communities, and digital storytelling that normalize mental health challenges and reduce stigma have shown promise in several settings and are worthy of systematic development and evaluation in Bangladesh.

108.2 Precision Psychiatry: The Personalized Future

The concept of precision psychiatry, which was introduced in Chapter Four of this textbook and referenced at various points since, has continued to develop rapidly. The core aspiration of precision psychiatry is to move beyond the current one-size-fits-all approach to psychiatric treatment, in which all people with a given diagnosis receive the same first-line treatment, toward an approach that uses information about individual biological, psychological, and social characteristics to predict which treatment will be most effective for which person.

Several specific developments in precision psychiatry deserve attention as they become increasingly relevant even in lower-resource settings. Pharmacogenomics, the study of how genetic variation affects drug response, has already produced clinically useful insights. Several genetic variants affecting the metabolism of psychiatric medications, particularly through the cytochrome P450 enzyme system, have been identified that are associated with either poor metabolism (leading to high drug levels and increased side effects) or rapid metabolism (leading to low drug levels and treatment failure). Pharmacogenomic testing, once available only as a research tool, is now increasingly available clinically and can guide medication selection and dosing in ways that reduce trial-and-error prescribing. The relevance of pharmacogenomics to Bangladesh is significant: genetic variants affecting drug metabolism differ in frequency across populations, and dosing guidelines developed for European populations may not be appropriate for Bangladeshi patients.

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The identification of biomarkers that predict treatment response is another active area of precision psychiatry research. Inflammatory biomarkers, particularly elevated C-reactive protein and interleukin-6, have been consistently associated with a subtype of depression that is more likely to respond to anti-inflammatory treatments and less likely to respond to conventional antidepressants. Several clinical trials of anti-inflammatory agents as treatments for depression in patients with elevated inflammatory markers are underway, and preliminary results are promising. This line of research could be particularly relevant in Bangladesh, where inflammatory conditions including helminth infections, malnutrition-related immune dysregulation, and the chronic low-grade inflammation associated with poverty and environmental pollution are highly prevalent and may contribute to the pathogenesis of depression in ways that current treatment protocols do not address.

Neuroimaging in psychiatry continues to advance, with new analytical techniques including machine learning approaches to neuroimaging data that can identify imaging signatures associated with specific subtypes of psychiatric disorders or with differential treatment response. These approaches are moving toward clinical utility, though they are not yet ready for routine clinical application. In the medium term, even in Bangladesh, brain imaging for specific psychiatric indications is likely to become increasingly feasible as costs fall and as regional imaging centers become more accessible.

The challenge of precision psychiatry from a global equity perspective deserves honest acknowledgment. The evidence base for precision psychiatry is currently generated almost entirely in high-income country populations, using expensive technologies and with access to genomic and clinical databases that do not exist in Bangladesh. If precision psychiatry develops entirely within high-income country research systems, its benefits may remain inaccessible to the majority of the world's population for many years. Ensuring that Bangladeshi genetic, clinical, and social data are incorporated into precision psychiatry research, and that the tools developed are accessible in low-resource settings, is both a scientific and an ethical imperative.

108.3 Neurostimulation: The Expanding Toolkit

Beyond pharmacological treatments, a range of neurostimulation techniques has expanded the therapeutic toolkit of psychiatry over the past three decades, and this expansion is continuing. Electroconvulsive therapy (ECT), which has been discussed in earlier chapters, remains the most powerful treatment available for severe depression and for certain other psychiatric conditions, and it is available in Bangladesh at the main specialist centers. Its proper use, with adequate anesthesia and monitoring, is an important clinical skill that psychiatry trainees in Bangladesh need to learn.

Transcranial magnetic stimulation (TMS), which uses pulsed magnetic fields to stimulate or inhibit brain activity in targeted regions, has been approved for treatment-resistant depression in many high-income countries and is showing promise for other conditions including OCD and PTSD. TMS is currently not available in Bangladesh, but as the technology becomes less expensive and more portable, it is likely to become accessible in larger centers over the coming decade. The evidence base for TMS is growing, and its non-invasive character and relative lack of cognitive side effects compared to ECT give it important advantages for certain patients.

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Transcranial direct current stimulation (tDCS), which delivers weak electrical currents to the brain through electrodes placed on the scalp, is an even simpler and cheaper neurostimulation technique that has been studied for depression, cognitive enhancement, and several other psychiatric applications. The evidence base for tDCS is less mature than for TMS, but it is growing. The low cost and simplicity of tDCS devices raises the possibility that this technology could be deployed in lower-resource settings including Bangladesh, if the evidence of effectiveness and safety is sufficiently robust.

Vagus nerve stimulation and deep brain stimulation are more invasive neurostimulation techniques that are used for severe treatment-resistant depression and other conditions in selected patients in high-income countries. These are not relevant to Bangladesh in the near term given their cost, complexity, and the specialist infrastructure they require. However, they represent part of the expanding arsenal of psychiatric treatments, and Bangladeshi psychiatrists should be aware of them for appropriate referral of patients who may benefit.

108.4 Psychedelic-Assisted Therapy: A Contested Frontier

One of the most striking developments in psychiatric research in the past decade has been the renaissance of interest in psychedelic substances as potential treatments for psychiatric disorders. Psilocybin, the active compound in "magic mushrooms," MDMA (3,4-methylenedioxymethamphetamine, or "ecstasy"), ketamine, and LSD have all been investigated in clinical trials as potential treatments for conditions including treatment-resistant depression, PTSD, alcohol use disorder, and end-of-life existential distress. Early results from these trials have been sufficiently promising to generate enormous scientific and popular interest.

Psilocybin-assisted therapy for treatment-resistant depression has been tested in two Phase 2 randomized controlled trials, one at Imperial College London and one at the Johns Hopkins Center for Psychedelic and Consciousness Research, with significant effects on depressive symptoms that have persisted at six-month follow-up. MDMA-assisted therapy for PTSD has completed Phase 3 trials with striking results, though a recent reanalysis raised some concerns about the quality of blinding and the impact of expectation effects. Ketamine and esketamine, which are already approved and in clinical use for treatment-resistant depression in many high-income countries, represent the closest thing to a practical psychedelic-assisted therapy currently available.

The theoretical framework for understanding why psychedelics might be therapeutic is still being developed. Several mechanisms have been proposed: psychedelics increase neuroplasticity and promote the formation of new neural connections; they decrease the activity of the default mode network, which is overactive in depression and addiction; they produce mystical or transcendent experiences that have a therapeutic character independent of their neurobiological effects; and they facilitate psychological processing of difficult experiences and emotions within the context of psychotherapy.

The cultural and ethical context of psychedelic therapy deserves attention, particularly from a Bangladeshi perspective. Islamic legal frameworks, which are highly relevant to the majority Bangladeshi population, generally prohibit the consumption of intoxicating substances. The use

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of psychedelics in clinical settings, however, does not correspond straightforwardly to the social use of intoxicants that religious prohibitions typically address, and there is ongoing theological debate about the applicability of these prohibitions to medical contexts. The cultural acceptability of psychedelic therapy among Bangladeshi Muslims would need to be carefully assessed and community consultation would be essential before any clinical program could be developed.

The practical relevance of psychedelic therapy for Bangladesh in the near term is limited: these treatments require specialized training, dedicated clinical settings, and careful patient selection and monitoring, and they are expensive. However, the trajectory of research in this field suggests that some psychedelic-assisted therapies may achieve regulatory approval and broader clinical use within the next decade, and Bangladeshi psychiatrists should be aware of the evidence and the ethical debates.

108.5 Artificial Intelligence in Psychiatry: Applications and Concerns

Artificial intelligence (AI) and machine learning are being applied to psychiatry in multiple ways that have the potential to transform both clinical practice and research. AI applications in psychiatry include: the analysis of large clinical datasets to identify predictors of diagnosis, treatment response, and outcomes; the development of naturalistic monitoring tools that analyze speech patterns, social media behavior, smartphone usage, and other digital signals to detect early signs of mental health deterioration; the creation of clinical decision support tools that provide diagnostic and treatment recommendations based on patient data; the development of conversational agents that can provide psychological support and psychoeducation; and the automation of routine clinical tasks to free up clinician time for more complex functions.

The potential of AI to improve mental health care in resource-limited settings like Bangladesh is significant. If AI can help primary care physicians to recognize depression and anxiety more reliably, or if it can provide first-line psychological support to people who cannot access human therapists, it could make a meaningful contribution to closing the treatment gap. Several organizations are developing AI-powered mental health chatbots and clinical decision support tools specifically for low-income country settings.

However, the risks and limitations of AI in psychiatry are equally real and deserve honest examination. AI systems trained on data from high-income country populations may perform poorly in Bangladeshi populations where the clinical presentations, language, and cultural contexts are different. AI systems can reflect and amplify the biases present in the data on which they are trained, potentially producing recommendations that are less accurate or appropriate for women, lower-income patients, or other underserved groups. AI decision support tools may undermine clinical judgment if they are used uncritically or if clinicians are not adequately trained in their use and limitations. And the concentration of AI development in a small number of large technology companies raises concerns about access, cost, and the alignment of commercial priorities with public health needs.

The regulatory framework for AI in medicine is still being developed globally, and Bangladesh is at an early stage of thinking about how AI health tools should be regulated and evaluated.

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Ensuring that AI tools used in mental health care in Bangladesh are rigorously evaluated for safety and effectiveness in Bangladeshi populations before being deployed, that they are transparent and explainable in their decision-making, and that their use is governed by appropriate ethical and regulatory frameworks, is an important priority for the emerging AI and mental health governance agenda.

CHAPTER ONE HUNDRED AND NINE: STIGMA, ADVOCACY, AND SOCIAL CHANGE: THE CULTURAL TRANSFORMATION OF MENTAL HEALTH IN BANGLADESH

109.1 Understanding Stigma: Definitions, Types, and Mechanisms

Stigma is one of the most significant barriers to mental health care and mental health equity in Bangladesh, as in most societies. The concept of stigma, as developed by the sociologist Erving Goffman in his landmark work "Stigma: Notes on the Management of Spoiled Identity" (1963), refers to an attribute that discredits a person in the eyes of others, reducing them from a full person to a discredited one. Mental illness stigma is the attribution of deeply discrediting characteristics to people on the basis of their mental illness status.

Several conceptually distinct forms of stigma are relevant to mental health. Public stigma refers to the negative attitudes and beliefs that members of the general public hold about people with mental illness, including beliefs that they are dangerous, incompetent, unpredictable, and personally responsible for their condition. These attitudes lead to discrimination in employment, housing, education, and social relationships, and they produce a social environment in which people with mental illness face profound disadvantage simply because of their mental health status.

Self-stigma, sometimes called internalized stigma, refers to the process by which people with mental illness apply the negative stereotypes of public stigma to themselves, leading to shame, self-blame, reduced self-esteem, and a reluctance to seek help or to disclose their condition. Self-stigma is a major barrier to help-seeking: people who feel ashamed of their mental illness are less likely to recognize it as a condition that requires and deserves treatment, and less likely to seek help even when they do recognize it.

Structural stigma refers to the ways in which social institutions, policies, and practices systematically disadvantage people with mental illness, not necessarily through the explicit prejudice of individuals but through the accumulated effect of organizational norms, resource allocation decisions, and policy choices. The allocation of less than 0.5 percent of the health budget to mental health in Bangladesh is a form of structural stigma: it reflects and reinforces the lower value that the health system places on the mental health of its population compared to its physical health.

Courtesy stigma, sometimes called associative stigma, refers to the stigma experienced by people who are closely associated with a person with mental illness, particularly family members. In Bangladesh, where family reputation is a central social currency, the stigma associated with

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having a family member with mental illness can be severe. It affects the marriage prospects of siblings, the social standing of parents, and the employment opportunities of relatives. This courtesy stigma creates powerful incentives for families to conceal mental illness, to avoid formal psychiatric care (which is more visible and therefore more stigmatizing than traditional healing), and to prioritize appearances over the health needs of the person with mental illness.

109.2 The Particular Character of Mental Health Stigma in Bangladesh

The stigma associated with mental illness in Bangladesh is shaped by specific cultural, religious, and historical factors that give it a distinctive character. Understanding these specific features is essential for designing effective anti-stigma interventions.

Religious and supernatural explanatory models play a particularly important role in Bangladeshi stigma. When mental illness is attributed to spirit possession, divine punishment, or the consequences of moral transgression, the stigma takes on a moral and spiritual dimension that compounds the social one. The person with mental illness is not merely sick but spiritually compromised, morally deficient, or divinely disfavored. This religious-moral framing of mental illness makes it particularly resistant to the kind of psychoeducation that emphasizes illness as a medical condition for which the person is not morally responsible, because for many Bangladeshis the medical and the moral-spiritual are not easily separable domains.

The intersection of mental illness with gender stigma creates particular burdens for women with mental illness in Bangladesh. A woman's primary social value, in many Bangladeshi social contexts, is determined by her capacity to be a suitable wife and mother. Mental illness, which is perceived as threatening this capacity, can make a woman unmarriageable, justify mistreatment by in-laws, and lead to divorce or abandonment. The social consequences of mental illness are therefore often more severe for women than for men, and the fear of these consequences is itself a major deterrent to seeking care.

Stigma operates differently in rural and urban Bangladesh, and understanding these differences is important for designing contextually appropriate anti-stigma interventions. In rural areas, where social networks are dense and reputations are community-wide, stigma may be more visible and more total: everyone in the village knows about the family member with mental illness, and the stigma spreads across the whole family. In urban areas, where social networks are more fragmented and anonymous, stigma may be more compartmentalized but also more acute when it occurs, given the competitive social environment of Dhaka and other cities.

109.3 Anti-Stigma Strategies: What Works and What Doesn't

The global literature on anti-stigma interventions for mental health is now substantial, and it has produced some relatively clear conclusions about what works, what does not, and what conditions are required for effective stigma reduction.

Social contact is the most consistently effective strategy for reducing public stigma. Direct contact between people with mental illness and members of the general public, particularly when the contact involves the personal disclosure of mental illness experience by someone who is

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functioning well in their life, reduces stereotypical thinking and emotional responses associated with stigma. The evidence for contact-based education is much stronger than for information-based education alone (simply providing facts about mental illness does not reliably reduce stigma, and may even increase it by making mental illness more salient). Contact works because it humanizes mental illness and makes it impossible to maintain the "othering" that stigma depends on.

In Bangladesh, contact-based anti-stigma programs face specific challenges. Finding people who are willing to publicly disclose their mental illness experience requires overcoming significant barriers of self-stigma and fear of social consequences. Developing the capacity to share personal experience in a way that is effective for stigma reduction, without exacerbating distress or creating vulnerability, requires training and support. And reaching the audiences where stigma is most powerful, including in rural communities, in health systems, and among employers, requires systematic program design.

Media representations of mental illness are a powerful determinant of public attitudes, and media-based anti-stigma programs can reach large audiences at relatively low cost. In Bangladesh, television, radio, and social media all have significant reach, and the representation of mental illness in these media is currently predominantly negative, focusing on violence, danger, and bizarre behavior rather than on recovery, resilience, and the ordinary humanity of people with mental illness. Advocacy with media organizations for more responsible and accurate representation, combined with positive storytelling campaigns that feature people with mental illness in empowering rather than victimizing roles, can shift media representation over time.

The medical and health professional community deserves specific attention as a target for anti-stigma interventions, given the evidence that stigmatizing attitudes among health professionals are common and have significant consequences for the quality of care that people with mental illness receive. Bangladeshi medical students and residents frequently report negative or dismissive attitudes toward people with mental illness, and these attitudes shape clinical practice in ways that are directly harmful. Incorporating anti-stigma education and contact-based learning into medical and nursing training programs is an essential step.

Anti-stigma interventions need to be culturally adapted to be effective in Bangladesh. Most of the evidence base for anti-stigma programs comes from high-income Western countries, and the specific framing of mental illness that is used in these programs, emphasizing biological causes and medical treatment, may not resonate in Bangladeshi cultural contexts where spiritual and social explanations carry more weight. Developing anti-stigma programs that engage with religious and spiritual frameworks, that speak to the social values of family reputation and community, and that are delivered by credible messengers within Bangladeshi cultural contexts is an important challenge for program designers.

109.4 Mental Health Advocacy in Bangladesh: Achievements, Challenges, and the Path Forward

Mental health advocacy in Bangladesh has a relatively short history but has made important contributions. The replacement of the Lunacy Act 1912 by the Mental Health Act 2018 was achieved partly through the sustained advocacy of psychiatric professionals, lawyers, human rights organizations, and civil society groups. The inclusion of mental health in the National Mental Health Strategic Plan 2020-2030 reflects the success of advocates in putting mental health on the national policy agenda. The growing media coverage of mental health issues, while still imperfect, reflects increasing public awareness that mental health advocates have helped to create.

However, mental health advocacy in Bangladesh has significant weaknesses. The movement is still largely professional-led, driven by psychiatrists and other mental health professionals rather than by people with lived experience of mental illness and their families. The service user and survivor movement, which in many high-income countries has been the driving force for mental health reform, is nascent in Bangladesh. Organizations that formally represent the interests and perspectives of people with mental illness are few, small, and insufficiently resourced. This matters because professional advocates, however well-intentioned, cannot fully represent the priorities and perspectives of people whose experience of the system is as patients rather than providers.

Building a genuine service user movement in Bangladesh requires addressing several challenges. Self-stigma and social stigma make it difficult for people with mental illness to identify publicly with their mental health status. Poverty and social marginalization mean that many people with mental illness lack the time, energy, and resources to engage in advocacy. The organizational infrastructure for advocacy, including NGOs with dedicated mental health advocacy mandates, is underdeveloped. And the political environment does not always create space for the voices of marginalized groups to be heard.

International partnerships are important resources for Bangladesh's mental health advocacy community. Global organizations including the Mental Health Foundation, the World Federation for Mental Health, and PAHO/WHO all provide resources, platforms, and solidarity for mental health advocates in low-income countries. Regional networks including the Lancet Commission on Global Mental Health and Sustainable Development have drawn attention to the scale of unmet need in countries like Bangladesh and have created political momentum for action. These international connections can amplify the voice of Bangladeshi advocates on the global stage and can bring international scrutiny to bear on the domestic policy situation.

CHAPTER ONE HUNDRED AND TEN: SYNTHESIS AND PHILOSOPHICAL REFLECTION: WHAT HAVE WE LEARNED, WHAT REMAINS UNCERTAIN, AND WHAT DOES IT MEAN TO PRACTICE PSYCHIATRY IN BANGLADESH?

110.1 A Discipline Defined by Its Tensions

Psychiatry is a discipline defined by tensions that cannot be fully resolved and that must instead be navigated with wisdom, humility, and intellectual honesty. This textbook has tried to present

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these tensions faithfully rather than papering over them with false certainty, and the act of synthesis at the end of a long journey through the field requires confronting them again in their full complexity.

The tension between the biological and the social is perhaps the most fundamental. The brain is the organ of the mind, and mental disorders are associated with measurable abnormalities of brain structure and function. But the brain develops in and is shaped by social environments, and the disorders of the mind emerge from the intersection of biological vulnerability and social experience. Reducing mental illness to brain disease impoverishes our understanding and narrows our therapeutic repertoire. Ignoring biology in favor of purely social explanations denies the reality of neurological suffering. The challenge is to hold both perspectives simultaneously, to see the person with mental illness as both a biological organism and a social being, as both a patient who may need medication and a human being who needs meaning, relationships, and social participation.

The tension between expertise and experience is another that runs through the entire field. The clinician brings knowledge of diagnosis, neuroscience, pharmacology, and evidence-based treatment. The person with lived experience of mental illness brings knowledge of what it actually feels like to live with a condition, of what helps and what does not in a way that no amount of clinical training can fully provide, of the social consequences of diagnosis and treatment that clinicians often do not adequately appreciate. The service user movement has insisted, rightly, that this experiential knowledge must be treated as legitimate and important, not as a supplement to clinical expertise but as a different and complementary form of expertise. The recovery-oriented approach that has been developed over the past three decades is in part an attempt to operationalize this insight in clinical practice.

The tension between individual and population frames is particularly important in a country like Bangladesh. The individual clinical encounter, in which one person with distress meets one person with the capacity to help, is the fundamental unit of psychiatric practice. But the factors that determine whether that encounter happens, whether it is effective, and whether it leads to recovery are largely population-level ones: the availability of services, the funding of the health system, the quality of training, the presence or absence of stigma, the social determinants of both the mental disorder and its course. Excellent clinical care for individuals cannot substitute for adequate mental health systems, and excellent mental health systems do not eliminate the need for skilled individual clinicians. Both are necessary, and the practitioner who operates only at one level is missing half of their professional responsibility.

The tension between universalism and cultural relativism is one that this textbook has navigated throughout, with particular attention to the Bangladeshi context. The universalist position holds that mental disorders are biological realities that occur across all cultures, that the same diagnostic categories apply globally, and that the same evidence-based treatments are appropriate everywhere. The culturalist position holds that mental illness is culturally constructed, that diagnostic categories developed in Western settings are not applicable in other cultural contexts, and that local healing traditions should be primary. Both positions contain important truths, and both in their extreme forms are misleading. The challenge is to develop an approach that takes the neuroscience seriously while remaining genuinely attentive to cultural

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context: that recognizes the real suffering that underlies locally constructed idioms of distress while being honest about what the evidence says is effective treatment.

110.2 The Philosophical Status of Psychiatric Diagnosis

Throughout this textbook, the philosophical complexity of psychiatric diagnosis has been a recurrent theme. The question of what a psychiatric diagnosis actually represents, whether it carves nature at its joints or creates convenient administrative categories, whether it helps people by giving their suffering a name or harms them by reducing their complex humanity to a pathological label, is one that every thoughtful psychiatrist must grapple with.

The intellectual progress of the past decade has, if anything, deepened rather than resolved these questions. The Research Domain Criteria (RDoC) initiative of NIMH aimed to develop a biologically grounded alternative to symptom-based diagnostic categories. After fifteen years of substantial investment, RDoC has generated important neuroscience but has not produced a clinically useful alternative to DSM/ICD categories. The Network Analysis approach to psychopathology, developed by Denny Borsboom and colleagues, argues that mental disorders are best understood not as diseases with underlying causes but as networks of causally interacting symptoms, each of which can influence the others. This framework accounts for many features of psychiatric comorbidity and heterogeneity that the traditional disease model struggles with, but it also raises questions about how to define when a network constitutes a disorder and how to intervene therapeutically on a network of symptoms.

The ICD-11, which Bangladesh is transitioning toward, represents the most recent official attempt to develop a classification system that is both clinically useful and consistent with what is known about the phenomenology and biology of mental disorders. Its innovations, including the new category of complex PTSD, the dimensional approach to personality disorders, and the explicitly "clinical utility" focus of its diagnostic guidelines, represent genuine advances. But the ICD-11 is still a categorical system, still based primarily on symptom clusters rather than biological mechanisms, and still reflects the cultural context of the societies in which the evidence base was generated.

Perhaps the most honest position is to treat psychiatric diagnoses as working hypotheses rather than as established facts: as the best current approximation to the underlying structure of mental health problems, useful for clinical communication and for organizing treatment decisions, but subject to revision as understanding improves. The person with schizophrenia is not fully described by that diagnosis; they are a whole person whose condition happens to have features that match a diagnostic category. The clinician who forgets this, who treats the diagnosis as the full reality, has made a fundamental error of professional perspective.

110.3 What It Means to Practice Psychiatry in Bangladesh Today

We conclude this philosophical chapter by trying to articulate what it actually means, at this moment in history, to practice psychiatry in Bangladesh. This is not an abstract question. It is the question that the student who finishes this textbook and enters practice will face every day.

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To practice psychiatry in Bangladesh today means to work in a system that is deeply inadequate, and to do the best one can within that system while also working to improve it. It means seeing patients who have traveled for hours, sometimes from hundreds of kilometers away, because there is no psychiatrist closer to their home. It means prescribing medications that may not be reliably available in the patient's local pharmacy. It means working with families who do not understand what mental illness is, who may believe it is divine punishment or spirit possession, and who need education and engagement as much as the patient does. It means making assessments and treatment decisions with far less information than one would ideally have, because investigations are expensive and often inaccessible. And it means carrying the weight of knowing that for every patient you see, there are many more with equal need who will never reach a psychiatrist.

To practice psychiatry in Bangladesh today also means to be part of a generation of professionals who are building a field from very limited foundations. The psychiatry that will exist in Bangladesh in twenty years will be substantially different from what exists today, and those being trained now will be responsible for that transformation. They will train the next generation of psychiatrists and other mental health workers. They will develop the research that will generate locally relevant evidence. They will advocate for better policy and better resources. They will adapt global evidence and global frameworks to Bangladeshi realities. And they will care for hundreds of thousands of patients over the course of their careers, in ways that will profoundly shape those patients' lives.

Practicing psychiatry in Bangladesh requires a particular kind of intellectual courage: the courage to hold uncertainty without being paralyzed by it, to navigate cultural complexity without losing one's clinical grounding, to advocate for patients and for the system without burning out, and to find meaning and satisfaction in work that is often difficult and inadequately supported. These qualities are not taught in textbooks; they are developed in practice, through reflection, supervision, and the accumulation of clinical wisdom. But a textbook can at least point toward them, can at least say: this is what the discipline demands, and this is why it matters.

110.4 The Ethical Imperative: Justice in Mental Health

The final philosophical reflection is about justice. Mental health inequity in Bangladesh, the vast gap between the needs of the population and the resources available to meet them, and the concentration of those limited resources in ways that serve the urban wealthy while leaving the rural poor without care, is not merely a technical problem to be solved by better policy design. It is a form of injustice that demands a moral response.

The philosopher John Rawls argued in "A Theory of Justice" that the basic institutions of a just society should be arranged to maximize the welfare of the worst-off members of the society. By this standard, Bangladesh's mental health system falls profoundly short of justice. The worst-off members of Bangladeshi society, the rural poor, women subjected to domestic violence, people with severe and persistent mental illness, indigenous communities, the Rohingya, and others, are precisely those who receive the least mental health care. The current allocation of mental health resources in Bangladesh does not reflect a principled priority for those in greatest need but

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rather the combined effect of historical neglect, inadequate advocacy, and the structural advantages of those who are already better positioned.

Addressing this injustice requires both technical and political work. The technical work involves developing services that can reach people who are currently unreached, adapting interventions for contexts that have not previously had access to evidence-based care, and building information systems that make the inequity visible. The political work involves building a coalition that is powerful enough to demand more resources, better distribution, and better accountability, including the voices of people with mental illness, their families, mental health professionals, civil society organizations, and sympathetic political actors.

The physician who enters psychiatry in Bangladesh is entering a profession that has both clinical and political dimensions. The clinical work of caring for individual patients is the core and the heart of that profession. But the political work of advocating for the system that patients need is equally essential. The two are not separable: the clinician who sees the daily consequences of an inadequate mental health system and says nothing about them has in some sense abandoned part of their professional responsibility. Psychiatry in Bangladesh demands engagement at both levels.

CHAPTER ONE HUNDRED AND ELEVEN: COMPREHENSIVE CASE STUDIES FOR PART SEVENTEEN

Case Study 111.1: Building a District Mental Health Service in Dinajpur

Dinajpur is a district of approximately 3.5 million people in northwestern Bangladesh, in Rangpur Division. Like most Bangladeshi districts, it has no psychiatrist, no designated mental health outpatient service, and no community mental health workers. The district hospital has 250 beds, a busy casualty department, and outpatient services in medicine, surgery, gynecology, pediatrics, and several other specialties. Mental health problems present frequently in the casualty and medical wards, mainly as acute behavioral disturbances, deliberate self-harm following pesticide ingestion, and severe depression presenting as inability to function. These presentations are managed by general physicians with no psychiatric training, typically with benzodiazepines and referral to Dhaka or Pabna if the family can afford the travel.

The district health officer, who has just returned from a national workshop on mental health system development, decides to try to develop a basic mental health service in Dinajpur. She faces several immediate challenges: she has no budget specifically for mental health, she has no trained mental health professional to lead the service, and she has no clear model for what a district mental health service in a resource-limited Bangladeshi context should look like.

She begins by meeting with the senior physicians at the district hospital to assess their interest and capacity. She finds that two of the medicine registrars are willing to undertake basic mhGAP training and to see mental health patients in a dedicated outpatient session once a week. She contacts the regional NIMH training coordinator and arranges a five-day mhGAP training for

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these registrars and for four of the nurses working in the medical ward. She negotiates with the hospital director for a dedicated room for the mental health outpatient session.

She then identifies the community health workers (shasthya shabikas) in three upazilas of the district and arranges a two-day orientation for them on recognizing common mental disorders and referring to the district hospital. She works with the local radio station to broadcast two programs on mental health awareness, using messages that have been developed and tested in other Bangladeshi settings.

Within six months, the weekly mental health outpatient session is seeing approximately thirty patients per week. The trained registrars are managing common mental disorders competently using the mhGAP protocol, referring more complex cases to NIMH in Dhaka. Several cases of severe depression and one case of treatment-resistant schizophrenia have been identified and appropriately managed. Forty-three people with deliberate self-harm have been assessed and provided with basic psychosocial support and safety planning before discharge, compared to essentially none before the initiative.

Several challenges have emerged. The supply of essential psychiatric medications in the district pharmacy is inconsistent: sertraline and haloperidol are usually available but olanzapine is frequently out of stock. The community health workers are referring patients appropriately but have difficulty supporting families between referral and appointment because they have no training in family psychoeducation. The radio programs increased patients' requests for mental health care but the once-weekly outpatient session is insufficient to meet the demand. And the hospital director has not been able to provide additional salary or official recognition for the mental health work being done by the registrars, who are concerned about workload and career progression.

The case study illustrates both the possibility and the limits of district-level mental health system development in the current Bangladeshi context. The committed district health officer, working with willing professionals and limited resources, can create something from nothing. But the sustainability and scale of what she can create is constrained by systemic factors: supply chain failures, workforce policies that do not recognize mental health as a specialty, insufficient outpatient capacity, and inadequate community-level support infrastructure. The lesson is not that individual initiative is insufficient; it is that individual initiative, however inspired, cannot substitute for the systemic investments in workforce development, supply chains, governance, and financing that a functional mental health system requires.

Case Study 111.2: The Rights of Rabeya: A Human Rights Case in Psychiatric Care

Rabeya is a 24-year-old woman who was admitted involuntarily to a private psychiatric clinic in Dhaka following an acute psychotic episode in which she became agitated and made threats to harm herself. She had a previous history of bipolar disorder, first diagnosed two years previously, and had been doing well on lithium until she stopped taking it three months ago after her pharmacist incorrectly told her that it was a "kidney medicine" that she should only take when she had kidney problems.

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She was admitted without her consent. Her husband signed the admission papers, as is common practice in Bangladesh, and she was not consulted about the decision. On admission she was highly agitated and was given a large dose of haloperidol by injection, without any assessment of her decision-making capacity and without any attempt to explain the proposed treatment to her or to seek her agreement. She was placed in a room with three other patients, all of whom were more severely unwell than she was, and she was not allowed to use her mobile phone.

Over the following three days, as her acute psychosis responded rapidly to treatment, Rabeya became increasingly aware of her situation and increasingly distressed by it. She asked to see the doctor and was told she could wait for the next ward round in two days. She asked to call her parents, who lived in Rajshahi, and was told that phone calls were not permitted for new admissions. She asked to read the papers she had been asked to sign on admission and was told they were not relevant to her care.

When she finally saw the doctor, she was lucid and her thinking was clear. She expressed her wish to be discharged, explaining that she now understood she needed to continue her lithium, that she was not a danger to herself or others, and that she could continue her treatment as an outpatient with the support of her family. The doctor told her that she needed to stay in hospital for at least another two weeks and that her husband had agreed to this. She was not told what criteria would need to be met for her to be discharged, she was not told that she had any right to challenge the decision, and no mechanism was offered through which she could seek an independent review of her detention.

Rabeya subsequently contacted a human rights organization through a staff member who agreed, at some personal risk, to relay her message to her family. The organization contacted the clinic and raised her case under the provisions of the Mental Health Act 2018. Under pressure, the clinic agreed to assess her formally using the capacity criteria set out in the Act. The assessment concluded that she had decision-making capacity, that she was no longer an immediate risk to herself or others, and that she should be discharged with outpatient follow-up. She was discharged eleven days after admission.

Rabeya's experience illustrates several of the human rights failures that occur regularly in Bangladeshi psychiatric care. The absence of meaningful informed consent on admission; the failure to assess and respect decision-making capacity; the substitution of the husband's authority for the patient's own judgment without any legal basis; the restriction of communication and the failure to provide information; and the absence of any accessible mechanism for challenging detention are all direct violations of the rights guaranteed, at least in principle, by the Mental Health Act 2018 and by international human rights standards.

The case also illustrates the importance of the advocacy role of civil society organizations and of the courage of individual health workers who are willing to prioritize patients' rights over institutional convenience. Without the staff member who relayed Rabeya's message and without the human rights organization that took up her case, she would have been detained for an additional two weeks without any formal review of whether her detention was lawful or clinically necessary.

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The systemic lessons of this case point to the need for: mandatory training of all staff working in psychiatric facilities in the rights-based provisions of the MHA 2018; the establishment of functional independent review mechanisms for all involuntary admissions; the requirement for formal capacity assessment as a prerequisite for any non-consensual treatment; the development of patient advocacy services attached to psychiatric facilities; and effective enforcement of facility licensing standards by the National Mental Health Authority.

Case Study 111.3: Navigating Multiple Healing Systems: The Case of Sanaullah

Sanaullah is a 35-year-old farmer from Noakhali district. For the past three years, he has experienced gradually worsening symptoms that include auditory hallucinations, social withdrawal, neglect of his farm, and episodes in which he speaks in what his family describes as an unfamiliar voice and makes pronouncements about religious matters. He is the oldest son of his family and was the primary breadwinner before his illness.

His family's first response, when symptoms began, was to increase his religious practice: they encouraged him to pray more, to attend the local mosque regularly, and to read the Quran. When this did not help, they consulted a local kabiraj, who prescribed herbal preparations and performed a ritual cleansing ceremony. After some months, when symptoms continued, they took him to a Sufi shrine in a nearby district, where he spent three weeks in residence under the care of the shrine's religious leaders, receiving spiritual treatment including recitation of Quranic verses, specific prayers, and guidance on religious practice. He improved somewhat during this period and returned home, but the improvement was not sustained.

Two years after symptom onset, Sanaullah was brought to the outpatient psychiatric department of the district hospital, after an uncle who was a government employee in Dhaka insisted that he be seen by a doctor. The psychiatrist diagnosed him with schizophrenia and prescribed risperidone, explaining the diagnosis and treatment to both Sanaullah and his family. The family was skeptical: they had already received a different explanation from the kabiraj and the shrine healers, and they were concerned about the idea that Sanaullah had a chronic illness that would require lifelong medication.

Sanaullah agreed to try the medication, partly because of his uncle's insistence and partly because his own suffering had become severe and he was willing to try anything. He showed significant improvement over the following three months, with reduction in hallucinations, improved sleep, and some restoration of his capacity to manage the farm. The family was impressed but not fully converted: they continued to interpret his illness as partly spiritual in nature, and they continued to consult the shrine healers alongside the psychiatric treatment.

At his six-month review, Sanaullah disclosed to the psychiatrist that he had stopped taking his risperidone two months ago because the kabiraj had told him that taking "foreign medicine" interfered with the spiritual healing, and that he had relied entirely on traditional treatment for the past two months. His symptoms had begun to return. The psychiatrist, trained in cultural consultation approaches, did not react with dismissal of the traditional healing or insistence that Sanaullah abandon it. Instead, she spent time exploring what the spiritual treatment meant to him and his family, asking about what they found helpful and what they had concerns about

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regarding the psychiatric treatment. She then worked with him to develop a treatment plan that accommodated both systems: he would resume risperidone at a lower dose that the kabiraj might find less threatening to the spiritual treatment, she would write a letter to the shrine leaders explaining that psychiatric medication did not interfere with spiritual healing and might indeed facilitate it by reducing the mental disturbance that interfered with religious practice, and the family would continue to engage with both systems.

Sanaullah resumed his medication and has maintained it for the following eighteen months. He continues to attend the shrine periodically and to regard his recovery as both medically and spiritually supported. His family's satisfaction with his treatment is high, and his own sense of well-being incorporates both the clinical improvement in his symptoms and the restoration of his spiritual life that he attributes to the continued engagement with the shrine.

This case illustrates the potential for culturally sensitive psychiatric practice to work effectively across the boundary between biomedical and traditional healing systems, rather than demanding an exclusive allegiance to one or the other. The key elements of the successful approach in this case were: the psychiatrist's genuine curiosity about and respect for the patient's cultural and spiritual framework; the willingness to adapt the treatment plan in ways that accommodated traditional healing practices rather than demanding that they be abandoned; proactive engagement with the traditional healer rather than ignoring their influence; and the recognition that the patient's own subjective framework for understanding his illness and recovery mattered, not merely as an obstacle to compliance but as a legitimate dimension of his experience.

Case Study 111.4: A Research Journey: Investigating Suicide in Rural Bangladesh

Dr. Nasreen Akter is a young psychiatrist who has just completed her MD and is beginning a research career at BSMMU. She is interested in understanding why suicide rates are so high among young married women in rural Bangladesh, and she wants to develop an intervention that could reduce these rates. She has read the existing literature, which shows high rates of organophosphate pesticide ingestion as a method of suicide, the frequent association with intimate partner violence and dowry harassment, and the lack of evidence-based suicide prevention programs specifically developed for rural Bangladeshi women.

She begins by conducting qualitative fieldwork in two rural districts: twelve months of ethnographic observation and in-depth interviews with women who have survived deliberate self-harm, with family members of women who have died by suicide, with community health workers, and with traditional healers who have been involved in the care of women in crisis. This qualitative work reveals a complex picture. Many women describe the act of taking poison not as a clear intention to die but as a desperate and impulsive response to acute interpersonal crisis, most often a severe episode of domestic violence or a humiliating conflict with in-laws, in a context of profound helplessness and a sense that there was no way out. They were not necessarily suicidal in a chronic or planned sense, but they were in a state of acute crisis in which the highly toxic pesticides available in their homes or farms were a lethal means within easy reach.

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Her qualitative work also identifies important community resources: the shasthya shabikas who are trusted by women in these communities and who are already doing basic health assessment, including antenatal care. These workers have no training in mental health or suicide risk recognition, but they have both the community relationships and the regular contact with women that would make them natural gatekeepers for suicide prevention.

Based on this qualitative work, Dr. Nasreen designs a randomized controlled trial of an intervention that has three components. The first is means restriction: working with local government and community leaders to remove highly toxic organophosphate pesticides from the homes of households in the intervention areas and replace them with less toxic alternatives. The second is gatekeeper training for shasthya shabikas: a four-session training program that teaches them to recognize signs of suicidal crisis in women they are working with, to provide a supportive response and basic safety planning, and to refer to the district hospital. The third is a family psychoeducation component delivered by shasthya shabikas: brief sessions with husbands and in-laws of high-risk women providing information about the mental health consequences of domestic violence and encouraging help-seeking.

The trial, conducted in partnership with the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) and with funding from a Wellcome Trust grant, runs for two years in twenty intervention and twenty control upazilas. Results show a 34 percent reduction in all-cause self-harm rates in intervention areas compared to control areas, and a significant reduction in pesticide self-harm specifically. The gatekeeper training component shows good fidelity: shasthya shabikas in intervention areas are significantly more likely to identify women in crisis and make appropriate referrals. The family psychoeducation component shows weaker effects, partly because uptake by husbands and in-laws was lower than expected.

Dr. Nasreen's research journey illustrates several important principles for mental health research in Bangladesh. The value of beginning with qualitative methods to deeply understand the local context before designing an intervention. The importance of building on existing community resources rather than imposing new structures. The feasibility and power of working with icddr,b and other established research institutions. The importance of randomized controlled trial methods for generating evidence with the methodological strength needed to influence policy. And the need to think carefully about implementation at the community level, recognizing that even well-designed interventions may face unexpected barriers when they encounter the complexity of real communities.

CHAPTER ONE HUNDRED AND TWELVE: STUDY QUESTIONS, INVESTIGATION PROTOCOLS, AND CLINICAL VIGNETTES FOR PART SEVENTEEN

112.1 Study Questions for Reflection and Examination

Question 1. Using the WHO health system building blocks framework, analyze the key strengths and weaknesses of the current mental health system in Bangladesh. For each building block,

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identify one specific reform that would produce the greatest improvement and explain the evidence and reasoning behind your choice.

Question 2. The Mental Health Act 2018 represents a significant advance over the Lunacy Act 1912, but it has important limitations from a human rights perspective. Identify three specific provisions of the MHA 2018 that are inconsistent with the requirements of the UN Convention on the Rights of Persons with Disabilities, and propose specific amendments that would bring the Act into greater alignment with CRPD standards.

Question 3. What is meant by the term "task-sharing" in the context of mental health care, and why is it considered the most feasible strategy for expanding mental health care coverage in Bangladesh? What are the key conditions required for task-sharing to be implemented effectively, and what are the main risks and limitations of this approach?

Question 4. Bangladesh has a suicide rate that is particularly high among young rural women, with organophosphate pesticide ingestion as the predominant method. Drawing on the epidemiological and qualitative evidence reviewed in this textbook, design a comprehensive suicide prevention strategy for rural Bangladesh that addresses means restriction, gatekeeper training, crisis response, and social determinants. What evidence would you need to evaluate whether your strategy was effective?

Question 5. "Stigma is not simply an attitude that needs to be changed through education; it is a structural feature of social systems that serves to mark and exclude people who are perceived as deviant or threatening." Evaluate this sociological perspective on stigma in the context of mental health in Bangladesh. What are the implications of this perspective for the design of anti-stigma programs?

Question 6. Consider the concept of precision psychiatry and its potential relevance to Bangladesh. What elements of the precision psychiatry agenda could realistically be implemented in Bangladesh within the next ten years, and what institutional, technical, and financial investments would be required? What are the risks of pursuing a precision psychiatry agenda in a setting where basic mental health care remains massively inadequate?

Question 7. A patient with severe schizophrenia, admitted involuntarily to a psychiatric ward, tells you that they want to stop taking their antipsychotic medication because they believe it is being given to them as punishment rather than as treatment. How would you assess their decision-making capacity? What ethical principles are in tension in this situation, and how would you navigate them?

Question 8. What is the global mental health movement, and what are its main achievements and controversies? How has Bangladesh been positioned within the global mental health movement, and what are the opportunities and risks of international engagement for the development of Bangladesh's mental health system?

Question 9. Describe the role of traditional healers, including kabiraj, ojha, and shrine-based practitioners, in mental health care in Bangladesh. What is the evidence on the effectiveness of

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traditional healing approaches for mental disorders? What ethical principles should guide the engagement of biomedical mental health professionals with traditional healing systems?

Question 10. Write a 1000-word position paper arguing for a fourfold increase in Bangladesh's mental health budget, using economic, epidemiological, human rights, and social justice arguments. Identify the specific investments that the additional resources should fund, and how you would monitor whether the investment was producing the intended effects.

112.2 Investigation Protocol: Mental Health Needs Assessment for a District

A mental health needs assessment for a district is an essential first step in planning and prioritizing district-level mental health services. The protocol below provides a framework for conducting such an assessment.

The first domain to assess is the epidemiological burden. This requires estimating the prevalence of priority mental disorders in the district population using a combination of secondary data from the National Mental Health Survey (adjusted for local risk factors where data is available), facility data on mental health presentations, and if resources permit, a rapid community survey using validated screening instruments adapted for local use. The prevalence estimates should be disaggregated by sex, age, and geographic area within the district wherever possible.

The second domain is the existing service landscape. This requires mapping all formal and informal resources that address mental health in the district: government health facilities at all levels, private practitioners, NGO programs, traditional healers, faith-based organizations, and any other community resources that address mental health. For each resource, the assessment should document the type of service provided, the population served, the geographic coverage, the capacity, and the cost to patients.

The third domain is the barriers to care. This requires qualitative research with people with mental illness and their families, with community members, with health workers, and with other key informants, to understand the specific barriers that prevent people from accessing appropriate mental health care in this district. Barriers will typically include distance, cost, stigma, lack of knowledge, cultural and explanatory model factors, supply chain failures, and health worker attitudes and skills.

The fourth domain is the workforce capacity. This requires assessing the number and distribution of health workers at different levels of the health system who have any training in mental health, the quality and currency of that training, and the supervision and support available to them. It should also assess the interest and willingness of existing workers to take on expanded mental health responsibilities.

The fifth domain is the policy and governance context. This requires understanding the formal governance structures responsible for mental health in the district, the budget allocations for mental health, the degree of integration of mental health into district health planning, and the political context for mental health reform at the district level.

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The assessment findings should be synthesized in a report that identifies the key priorities for mental health system development in the district, proposes a phased implementation plan with clear objectives, indicators, and resource requirements, and identifies the key partnerships and stakeholder engagements needed to support implementation.

112.3 Clinical Vignettes for Discussion

Vignette A. A 30-year-old man presents to a primary care clinic with a one-year history of declining occupational functioning, social withdrawal, and episodes in which he reports that his thoughts are being "broadcast" to others around him. He has not previously received any mental health care. His family has consulted a kabiraj, who has diagnosed spirit possession and whose treatment has provided temporary but not sustained benefit. The primary care physician has completed mhGAP training. How should this patient be assessed and managed? What are the key information needs? What is the appropriate pathway, and what are the likely barriers?

Vignette B. A 22-year-old female garment worker presents to the factory health worker with a three-month history of low mood, poor sleep, inability to enjoy anything, and recurrent thoughts that life is not worth living. She has recently had a fight with her husband about money and is afraid he will send her back to her parents. She has heard that "depression" is a real illness but is worried that if she is diagnosed she will lose her job. How should the health worker respond? What screening and assessment should be done? What treatment and support should be offered?

Vignette C. A district hospital admits a 17-year-old boy who has ingested organophosphate pesticide following an argument with his father about exam failure. He is medically stabilized by the general physician. His father, who is waiting outside, is extremely distressed and blames the boy's "bad character" for what has happened. What mental health assessment should be conducted, and by whom? What should the management plan include? What are the key risks? How should the family be engaged?

Vignette D. A 65-year-old woman is brought to the outpatient clinic by her daughter. She has become increasingly confused over the past six months, is getting lost in familiar places, and has stopped recognizing some neighbors. She was previously a very capable woman who managed the household independently. Her daughter is exhausted from providing care and is worried about her own children, who are being neglected because of the demands of caring for her mother. How should this case be assessed? What investigations are appropriate? What diagnoses should be considered? How should the daughter be supported?

CHAPTER ONE HUNDRED AND THIRTEEN: THE FINAL SYNTHESIS: A VISION FOR PSYCHIATRY AND MENTAL HEALTH IN BANGLADESH

113.1 Where We Are: An Honest Assessment

This textbook has been an argument as well as a reference. The argument, stated plainly, is this: that mental health matters profoundly to the lives of individual Bangladeshis and to the well-

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being of the nation; that the current mental health system is radically inadequate to meet the needs of the population; that this inadequacy reflects a combination of historical neglect, inadequate political will, cultural stigma, and institutional inertia that can be changed; that the knowledge exists to do much better; and that the students, clinicians, researchers, and policy-makers who read this textbook have both the capacity and the responsibility to contribute to that change.

Being honest about where Bangladesh is today requires acknowledging that the journey toward an adequate mental health system is a long one, that the gaps are enormous, and that the resources available are modest. Bangladesh's 0.44 percent mental health budget share, its 0.18 psychiatrists per 100,000 population, its almost complete absence of community mental health services, its inadequate mental health legislation implementation, its pervasive stigma, and its massive treatment gap are not problems that will be solved quickly or easily. Claiming otherwise would be a disservice to the readers of this textbook, who need an accurate map of the terrain they will be navigating.

But honesty also requires acknowledging that Bangladesh has transformed itself before in ways that seemed impossible at the outset. Forty years ago, the rates of childhood mortality, maternal mortality, and malnutrition in Bangladesh were devastating. Today, they are dramatically lower, the result of sustained investment in primary health care, community health workers, and evidence-based public health programs. Forty years ago, the vast majority of Bangladeshi girls were not completing secondary school. Today, they are, the result of policy commitment, social mobilization, and the work of countless individuals. These transformations did not happen automatically or inevitably. They happened because people made them happen, working with commitment and intelligence within the real constraints of a poor country with limited resources.

The mental health transformation that Bangladesh needs is of a comparable magnitude. It will require similar commitment, similar intelligence, similar willingness to challenge the status quo, and similar sustained effort across multiple decades. The students who are reading this textbook are the generation who will either make this transformation happen or watch it fail to happen. The choice is not theoretical; it will be made by the practical decisions that each of them makes, about what specialty to enter, what questions to research, how to treat their patients, how to engage with policy, and how much of their professional lives to devote to the public good.

113.2 The Vision: What Bangladeshi Mental Health Could Be

It is important to articulate not only what is inadequate about the current situation but also a positive vision of what Bangladeshi mental health could be, because without a vision of the goal the work of transformation has no direction.

The vision is one in which every Bangladeshi with a mental disorder has access to effective, dignified, and culturally appropriate care, regardless of where they live, how much money they have, what their gender is, or what their social status is. It is a vision in which that care is delivered through a system of integrated services, from community-level support through primary care to specialist services, that works together coherently and is governed by a clear policy framework grounded in human rights and evidence. It is a vision in which mental health

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professionals are adequately trained, appropriately distributed, well-supported, and able to practice with professional satisfaction. It is a vision in which the social determinants of mental health, including poverty, gender inequality, and climate vulnerability, are addressed through cross-sectoral policies that make mental health a whole-of-government responsibility rather than a problem for the health sector alone. It is a vision in which people with lived experience of mental illness are not stigmatized, excluded, and silenced but are recognized as citizens with equal rights and contributions.

This vision is not utopian. Elements of it exist today in countries that have made the journey Bangladesh is beginning, from Italy's community-based mental health system to Brazil's Network of Psychosocial Attention, from Kenya's task-sharing programs to India's District Mental Health Program at its best. These models are imperfect, all of them, and none is directly transferable to Bangladesh without significant adaptation. But they demonstrate that the vision is achievable, that the transformation is possible, and that the direction of travel is clear.

113.3 The Immediate Priorities: What Must Happen First

Among the many things that need to happen to realize this vision, several deserve identification as immediate priorities because their absence blocks progress across the entire system.

The first immediate priority is budget. The mental health budget must be increased substantially, from under 0.5 percent of the health budget to at least 2 percent, as a first step toward the global recommendation of 5 percent or more for low-income countries. This is not a technical question; it is a political one, and it requires political advocacy at the highest levels of government. Mental health advocates, including the psychiatric profession, civil society organizations, and international partners, must make this budget increase a central and sustained demand.

The second immediate priority is workforce. The training of psychiatrists, clinical psychologists, and psychiatric nurses must be substantially expanded. The number of training seats must increase. Distributed training programs must be developed at divisional medical colleges to reduce the concentration of training in Dhaka. And the working conditions and career structures of public sector mental health professionals must be improved to make public service attractive.

The third immediate priority is primary care integration. The mhGAP guidelines must be systematically implemented across all upazila health complexes, with proper training, supervision, and supply of essential medicines. This is not a new recommendation; it has been made repeatedly over the past decade. What is new is the opportunity created by the WHO Special Initiative for Mental Health and the National Mental Health Strategic Plan 2020-2030, which provide both the framework and some resources to make this happen. What is needed is the organizational commitment to do it.

The fourth immediate priority is the National Mental Health Authority. The Authority mandated by the MHA 2018 must be made fully functional, properly resourced, and given genuine enforcement capacity. Without an effective regulatory body, the standards and rights established by the Act will remain purely formal.

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The fifth immediate priority is research and information. A new National Mental Health Survey must be planned and funded, and a routine mental health information system must be developed and implemented. Without adequate information, neither governance nor accountability is possible.

113.4 The Longer-Term Transformation: Building a System Over a Generation

The immediate priorities described above are steps toward a longer-term transformation that will unfold over one to two generations. This transformation involves changes not only in the technical components of the mental health system but in the cultural and political environment in which it operates.

The cultural transformation involves changing the way that mental illness is understood and talked about in Bangladeshi society: from a source of shame and stigma to a recognized health condition that deserves compassion and care. This cultural change is already beginning, driven by the growing visibility of mental health in media, by the advocacy of NGOs and mental health organizations, and by the increasing willingness of young Bangladeshis to talk about their own mental health experiences. The speed of this cultural change can be accelerated through systematic programs: school-based mental health education, media partnerships, contact-based anti-stigma programs, and the integration of mental health into religious community life through training of imams and other religious leaders as mental health champions.

The political transformation involves making mental health a genuine priority for the Bangladeshi state, not merely in formal policy documents but in the allocation of real resources and real political attention. This requires the development of a broad political coalition that includes not only mental health professionals but also women's organizations (given the gendered burden of mental illness), labor unions (given the mental health consequences of poor working conditions), educational institutions (given the mental health crisis among students), civil society organizations, and people with lived experience of mental illness and their families. The 2025 UN High-Level Meeting on Noncommunicable Diseases and Mental Health, which Bangladesh participated in as a member state, provides a global policy moment that can be used to strengthen domestic political commitment.

The professional transformation involves developing a mental health workforce that is not only technically skilled but also committed to equity, cultural sensitivity, human rights, and the recovery model. This means reforming the training of psychiatrists, psychologists, and other mental health workers to incorporate these values and perspectives explicitly, not as add-ons to clinical training but as central elements of professional identity. It means creating professional communities that reward innovation, cultural sensitivity, and advocacy as well as clinical expertise.

113.5 The Role of the Clinician in the Transformation

This textbook has been written primarily for clinicians and students of clinical psychiatry, and it is fitting that its final reflection returns to the clinical encounter: the meeting between one person in distress and another person who has chosen to help.

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Every clinical encounter is an ethical act. Every time a psychiatrist listens carefully to a patient who has been dismissed or misunderstood by others, they are making a statement about the value of that patient's experience. Every time they explain a diagnosis and treatment in language the patient can understand, respecting their intelligence and their right to make decisions about their own care, they are practicing the human rights principles that this textbook has argued for. Every time they take seriously the cultural and spiritual dimensions of a patient's experience rather than reducing it to a diagnostic category, they are practicing the cultural humility that good psychiatry requires.

Clinicians are not merely passive instruments of the health system. They shape the system through their individual choices, their collective advocacy, their training of the next generation, and their contributions to research and policy. The clinician who sees the inadequacy of the current system and does nothing about it except treat the patients who reach them is doing important work, but incomplete work. The clinician who combines excellent individual care with engagement in the systemic transformation that the mental health field in Bangladesh needs is doing work that this country urgently requires.

The philosopher and physician Paul Farmer, who devoted his career to developing health systems for the world's poorest populations, used to say that the challenge of global health was not primarily a technical one but a moral one: the technical knowledge exists to address most of the world's preventable suffering; what is lacking is the moral commitment to act on that knowledge. Psychiatry in Bangladesh faces the same challenge. The knowledge to do much better than we are doing exists. What is needed is the moral commitment to use it.

113.6 Closing Reflections: What This Textbook Has Tried to Do

This textbook has tried to do several things at once, and it is worth being explicit about them at the end.

It has tried to provide comprehensive coverage of the clinical knowledge that a psychiatrist or other mental health professional working in Bangladesh needs. That knowledge includes the science of diagnosis, the pharmacology of treatment, the evidence base for psychological therapies, the neurobiology of specific conditions, and the clinical skills of assessment, formulation, and management planning. This clinical foundation is the core of the book, and without it the rest would be ungrounded.

It has tried to situate that clinical knowledge within the specific cultural, social, historical, and epidemiological context of Bangladesh. The student who reads this textbook should be able to see not only what schizophrenia is as a universal clinical entity but what it looks like in the life of a farmer in Barisal, how it interacts with the family structures and healing systems of rural Bangladesh, and what the specific challenges and opportunities are for its management in this context.

It has tried to take philosophical and ethical complexity seriously, refusing to reduce psychiatry to a set of procedures or to pretend that the deep questions about the nature of mental illness, the ethics of coercive treatment, and the cultural determinants of psychopathology have simple

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answers. These questions are part of what makes psychiatry intellectually demanding and humanistically rich, and the clinician who engages with them thoughtfully will practice better than the one who ignores them.

It has tried to present public health and policy perspectives alongside clinical ones, arguing throughout that individual clinical care and population health are not separable and that the responsibilities of the mental health professional extend beyond the clinic. Mental health is too important to be left to psychiatrists alone; it requires the engagement of policy-makers, educators, economists, social workers, community leaders, religious authorities, and above all the people and families whose lives are affected by it.

And it has tried to be a book that a student would want to read, not just a reference to be consulted. Psychiatry is a discipline of extraordinary human interest and complexity. It deals with the most intimate aspects of human experience: how we think, feel, perceive, and relate to others. It intersects with philosophy, literature, history, anthropology, and social science in ways that few other medical specialties do. The story of how human societies have understood and responded to mental illness over the centuries is a story of great intellectual achievement and great human failure, of compassion and cruelty, of scientific progress and ideological distortion. This textbook has tried to tell some of that story, and to connect it to the specific story of Bangladesh, in a way that makes the discipline come alive.

If students who read this textbook emerge with a deeper understanding of what mental illness is and what good care for it requires, with a genuine commitment to the people and communities whose mental health they will be entrusted to protect, and with a sense of the work that remains to be done and their own capacity to contribute to it, then this book will have achieved what it set out to do.

CASE VIGNETTES FOR SELF-DIRECTED STUDY IN PART SEVENTEEN

Vignette 1. You are a newly appointed mental health focal person in an upazila health complex in Sylhet division. You have no budget specifically for mental health, two nurses who are willing to be trained, and a stock of sertraline, haloperidol, and diazepam in the pharmacy. What are the first five actions you take, and why?

Vignette 2. A journalist from a national newspaper contacts you for a comment on a report that a private psychiatric clinic in your city has been discovered chaining patients and denying them access to family visits. What is your response, and what actions should follow from this situation?

Vignette 3. You are presenting to a meeting of upazila health administrators on the importance of integrating mental health into primary care. One of the administrators says: "We already have too many things to manage. Mental health can wait until we have sorted out maternal health and nutrition." How do you respond?

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Vignette 4. A research group from a UK university contacts you asking if you would be willing to serve as the country collaborator on a study of depression biomarkers in Bangladesh. They will provide funding for data collection and laboratory analysis. They will do all the data analysis and writing. You will be acknowledged in the paper but will not be listed as an author. What are the equity issues here, and how would you respond?

Vignette 5. You are a psychiatrist at a district hospital. A 19-year-old university student is brought by her parents, who say she has been spending excessive time on her phone, has stopped eating properly, and told her mother she "can't go on." On assessment she has moderate depression, social media-related body image concerns, and passive suicidal ideation without intent or plan. Her parents want her admitted. She wants to go home and try outpatient treatment. What are the ethical dimensions of this situation, and how do you navigate them?

STUDY QUESTIONS FOR PART SEVENTEEN

1. *Define "mental health literacy" and explain its importance for mental health system development in Bangladesh. What is the evidence on current levels of mental health literacy in Bangladesh, and what interventions have been shown to improve it?*
2. *Compare the mhGAP approach to mental health care with the traditional specialist model. What are the advantages and limitations of each, and under what conditions is each most appropriate?*
3. *What is the treatment gap in mental health, and how is it measured? What are the main factors responsible for the mental health treatment gap in Bangladesh?*
4. *Describe the key provisions of the Mental Health Act 2018. What are its main advances over the Lunacy Act 1912, and what are its main limitations from a human rights perspective?*
5. *What is the relationship between climate change and mental health in Bangladesh? What are the main mental health consequences of climate-related events and processes, and what mental health interventions have been developed in response?*
6. *Describe the concept of "structural stigma" in relation to mental health, giving examples from the Bangladeshi context. How does structural stigma differ from individual attitudes, and what are the implications of this distinction for anti-stigma strategies?*
7. *What is precision psychiatry, and what are its main components? What is the current state of evidence for precision psychiatry approaches to treatment selection? What are the barriers to implementing precision psychiatry in Bangladesh?*
8. *Describe the WHO Special Initiative for Mental Health and Bangladesh's participation in it. What has the initiative achieved in Bangladesh, and what challenges has it encountered?*
9. *Evaluate the ethical arguments for and against involuntary psychiatric treatment. What safeguards should be in place when involuntary treatment is used, and how adequate are the current safeguards in Bangladesh?*
10. *What role should people with lived experience of mental illness play in mental health system development, research, and service delivery? What are the barriers to meaningful involvement of service users in Bangladesh, and how might they be overcome?*

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FURTHER READING FOR PART SEVENTEEN

For students who wish to go deeper into the themes of this part, the following categories of reading are particularly recommended.

On mental health systems and global mental health, the World Mental Health Report "Transforming Mental Health for All" published by WHO in 2022 provides the most comprehensive available account of the global state of mental health systems and the agenda for change. The Lancet Commission on Global Mental Health and Sustainable Development report, published in 2018, provides the economic and epidemiological case for investment in mental health in low- and middle-income countries. The WHO Mental Health Atlas 2024, published in September 2025, provides the most current global data on mental health system resources and coverage.

On Bangladesh specifically, the BJPsych International special issue on mental health in Bangladesh (Volume 18, Issue 4, November 2021) brings together multiple papers on the current state of mental health in Bangladesh, including the country profile, the new mental health law, and several condition-specific analyses. The book "Mental Health in Bangladesh" edited by Arafat and colleagues (Springer, 2024) provides a more recent and comprehensive academic treatment of mental health in the Bangladesh context.

On mental health law and human rights, the OHCHR publication "Mental Health, Human Rights and Legislation: Guidance and Practice" provides the authoritative international framework. The 2024 State of Mental Health Rights in Bangladesh report by Monirul Islam, published by PsychRights, provides a focused analysis of the Bangladeshi situation.

On digital mental health, the review by Graham and colleagues in JMIR Mental Health (2022) "Digital Mental Health and COVID-19" provides a good overview of the evidence and challenges. For the Bangladesh context, the work of researchers at BRAC University and icddr,b on digital health interventions in Bangladesh provides the most relevant local evidence.

On stigma and anti-stigma programs, Graham Thornicroft's "Shunned: Discrimination against People with Mental Illness" (Oxford University Press, 2006) remains the most comprehensive academic treatment of mental health stigma. For anti-stigma program design, the Time to Change program in England and the Like Minds, Like Mine program in New Zealand provide important models, both of which have generated substantial evaluative evidence.

On precision psychiatry, the 2025 paper by Comai and colleagues in Molecular Psychiatry, "Precision Psychiatry: From Insights to Practice," provides a current and accessible overview. The Nature Medicine series on machine learning in psychiatry (2024) provides more technical coverage of AI applications in psychiatric research and practice.

On research methodology for low- and middle-income countries, the Essential Public Health Functions framework and the Priority Setting Partnership approach provide practical models

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for setting research agendas. The WHO and TDR Special Programme for Research and Training in Tropical Diseases publication "Implementation Research Toolkit" (2014, updated 2024) provides a comprehensive guide to implementation research methods relevant to mental health system development.

CONNECTIONS FROM PART SEVENTEEN TO THE FIELD AS A WHOLE

Part Seventeen completes this textbook by addressing the systemic, political, legal, and philosophical dimensions of mental health that provide the context for everything addressed in the sixteen preceding parts. The diagnosis of schizophrenia explored in Part Five is clinically meaningful only within a system that can detect it, diagnose it accurately, and provide treatment; Part Seventeen has analyzed that system and its current inadequacy. The psychotherapy approaches developed in Part Sixteen can only reach people who can access them; Part Seventeen has examined the barriers to access and the strategies for overcoming them. The epidemiological data on depression in Bangladesh reviewed in Part Six only has policy relevance if there is a research and information system capable of generating and using it; Part Seventeen has argued for the development of that system.

The seventeen parts of this textbook are not independent; they are elements of an integrated argument. The argument is that psychiatry in Bangladesh, practiced well, understood deeply, and connected to its historical, cultural, social, and institutional contexts, is one of the most intellectually rich, clinically important, and morally significant fields of medicine. It is a field that deserves the best minds and the strongest commitments of those who enter it. And it is a field that, with the knowledge and determination that this textbook has tried to provide and inspire, can contribute profoundly to the transformation of mental health in Bangladesh.

The suffering is real. The knowledge to address it is substantial. The gap between them is a moral challenge that this generation of students and clinicians is called to bridge.

END OF PART SEVENTEEN

END OF "PSYCHIATRY AND BEHAVIORAL SCIENCE: A BANGLADESH PERSPECTIVE"

Psychiatry And Behavioral Science: A Bangladesh Perspective, S M Nazmuz Sakib, First Edition

This textbook was written with the conviction that every person in Bangladesh who experiences mental illness deserves access to effective, dignified, and culturally appropriate care; that realizing this aspiration requires the combined efforts of clinicians, researchers, policy-makers,

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advocates, and communities; and that the foundation of all these efforts is understanding, of the science, the history, the culture, the system, and above all the humanity of those whose mental health we seek to protect and restore.

GLOSSARY

A

Aberrant Salience *- The concept that the core pathological process in psychosis is dysregulation of the normal salience tagging function of the dopamine system, causing inappropriate attribution of significance to neutral stimuli.*

Acute Stress Reaction (ASR) *- A transient acute response to an overwhelmingly stressful event developing within hours and typically resolving within a few days; classified in ICD-11 as a normal human response to extreme stress rather than a mental disorder.*

Adaptive Behavior *- The collection of conceptual, social, and practical skills that people need to function in everyday lives, central to the diagnosis of intellectual developmental disorder.*

Addiction *- A chronic, relapsing condition characterized by compulsive drug seeking and use despite negative consequences, impaired control, craving, and continued use despite awareness of harm.*

ADHD (Attention Deficit Hyperactivity Disorder) *- A neurodevelopmental disorder characterized by persistent inattention and/or hyperactivity-impulsivity present before age 12, occurring in multiple settings, representing significant deviation from developmental level.*

Adjustment Disorder *- Emotional or behavioral symptoms developing in response to an identifiable psychosocial stressor, with marked distress disproportionate to what would be expected or significant functional impairment.*

Advance Directives (Psychiatric Advance Directives) *- Documents allowing persons with mental illness to document preferences for treatment in the event of future psychiatric crisis where they may lack decision-making capacity.*

Akathisia *- A subjective sense of inner restlessness and compelling need to move, an extremely unpleasant extrapyramidal side effect of antipsychotic medications.*

Alexithymia *- Difficulty in identifying and describing one's own emotions, highly relevant to somatic symptom disorders where emotional distress is experienced as bodily sensations.*

Allostatic Load *- The cumulative biological cost of chronic stress producing wear and tear on biological systems including the HPA axis, autonomic nervous system, immune system, and cardiovascular system.*

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Alzheimer's Disease *- The most common cause of dementia characterized by extracellular deposition of amyloid beta plaques and intraneuronal accumulation of hyperphosphorylated tau protein.*

Amygdala *- The brain's primary threat detection and threat response center, a paired almond-shaped cluster of nuclei located deep in the medial temporal lobe, hyperresponsive in anxiety disorders and PTSD.*

Anankastia *- An ICD-11 personality trait domain referring to perfectionism, orderliness, and rigidity in personal standards, emotional expression, and rules-following.*

Anorexia Nervosa *- An eating disorder characterized by restriction of energy intake leading to significantly low body weight, intense fear of weight gain, and disturbance in body weight or shape experience.*

Antidepressant Discontinuation Syndrome *- A syndrome of dizziness, nausea, electric shock sensations, irritability, and anxiety following abrupt antidepressant discontinuation, particularly with paroxetine and venlafaxine.*

Antisocial Personality Disorder (ASPD) *- A pattern of disregard for and violation of the rights of others, with origins in conduct disorder before age 15 and manifestations in multiple contexts.*

Anxiety *- A forward-looking apprehension about possible future threat with uncertainty, diffuse, and not immediately present, distinguished from fear which responds to immediate threat.*

Applied Behavior Analysis (ABA) *- The application of operant conditioning principles to systematic teaching of skills and reduction of challenging behaviors in autism and intellectual disability.*

Asociality *- Reduced desire for and pleasure from social interaction, one of the negative symptoms of schizophrenia.*

Attachment Theory *- John Bowlby's theory that humans have an innate system for forming and maintaining emotional bonds with caregivers, with early attachment quality shaping emotional regulation and interpersonal functioning across the lifespan.*

Atypical Depression *- A subtype of major depressive disorder characterized by mood reactivity, hypersomnia, increased appetite, leaden paralysis, and interpersonal rejection sensitivity.*

Autism Spectrum Disorder (ASD) *- A neurodevelopmental condition characterized by persistent difficulties in social communication and restricted repetitive patterns of behavior, interests, or activities, present from early development.*

Automatic Thoughts *- Rapid, often fleeting thoughts arising in specific situations carrying emotional valence, the first level of cognitive structure in Beck's cognitive model.*

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Avoidance *- The behavioral strategy of reducing anxiety by steering clear of feared stimuli, situations, thoughts, or feelings; the mechanism through which anxiety disorders become self-perpetuating and progressive.*

Avoidant Personality Disorder *- A pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation, manifesting in avoidance of social situations unless certain of being liked.*

Avoidant Restrictive Food Intake Disorder (ARFID) *- A feeding disorder where food avoidance or restriction is driven by sensory sensitivity, fear of aversive consequences of eating, or general lack of interest rather than weight and shape concerns.*

Avolition *- Profound reduction in motivation and goal-directed behavior, one of the most disabling negative symptoms of schizophrenia.*

B

Behavioral Activation (BA) *- A simplified version of CBT focusing specifically on increasing engagement with positively reinforcing activities and reducing avoidance; as effective as full CBT for depression and more amenable to task-sharing delivery.*

Behavioral Parent Training (BPT) *- An evidence-based intervention for conduct disorder and disruptive behavior problems teaching parents skills in positive reinforcement, effective discipline, and structured communication.*

Benzodiazepines *- GABA-A receptor positive allosteric modulators effective for short-term anxiety management, alcohol withdrawal, and agitation, but associated with tolerance, dependence, and withdrawal with prolonged use.*

Binge Eating Disorder (BED) *- An eating disorder characterized by recurrent episodes of binge eating without regular compensatory behaviors, now recognized as the most prevalent of the three major eating disorders.*

Biological Sensitivity *- In Linehan's biosocial theory, a temperamental characteristic of heightened emotional reactivity, intensity, and slower return to baseline that increases vulnerability to borderline personality disorder.*

Biomedical Model *- The framework holding that mental disorders are, at their core, disorders of the brain involving disruptions of neural circuits, neurochemical systems, or genetic programs.*

Biopsychosocial Model (BPSM) *- George Engel's framework proposing that complete understanding of health and illness requires attention to biological, psychological, and social factors simultaneously.*

Biosocial Theory *- Marsha Linehan's theory that borderline personality disorder develops through the transaction between biological sensitivity (emotional reactivity) and an invalidating environment.*

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Bipolar Disorder *- A chronic mood disorder characterized by the occurrence of one or more manic or hypomanic episodes, typically (though not invariably) alternating with depressive episodes.*

Bipolar I Disorder *- Bipolar disorder with at least one manic episode.*

Bipolar II Disorder *- Bipolar disorder with at least one hypomanic episode and at least one major depressive episode, without full manic episodes.*

Bodily Distress Disorder (BDD) *- The ICD-11 category replacing somatoform disorders, defined by the presence of bodily symptoms that are distressing and excessive attention directed toward the symptoms.*

Borderline Pattern Specifier *- An ICD-11 specifier capturing the distinctive clinical picture of borderline personality disorder with marked affective instability, intense and unstable close relationships, identity disturbance, impulsivity, and intense fear of abandonment.*

Brain-Derived Neurotrophic Factor (BDNF) *- A growth factor essential for survival, differentiation, and synaptic plasticity of neurons; reduced in depression and normalized by effective antidepressant treatment.*

Brief Psychotic Disorder *- A psychotic episode with sudden onset lasting at least one day but less than one month, with full return to premorbid functioning.*

Bulimia Nervosa *- An eating disorder characterized by recurrent binge eating and recurrent inappropriate compensatory behaviors occurring at least once per week for three months, typically maintaining body weight within or above normal range.*

Bupropion *- A norepinephrine-dopamine reuptake inhibitor antidepressant that does not cause sexual dysfunction but lowers seizure threshold.*

Buspirone *- A partial agonist at serotonin 5-HT1A receptors with delayed onset of action (two to four weeks) and no dependence risk, useful for generalized anxiety disorder.*

C

Capgras Syndrome *- A delusion common in Alzheimer's disease where the person believes a familiar person has been replaced by an impostor.*

Cartesian Dualism *- Descartes' philosophical proposal of a sharp separation between the mind (res cogitans, thinking substance) and the body (res extensa, physical substance).*

Cataplexy *- Sudden, brief episodes of muscle weakness triggered by strong positive emotions such as laughter or excitement, pathognomonic of narcolepsy type 1.*

Catatonia *- A syndrome of motor immobility, mutism, negativism, and posturing that can occur in schizophrenia, mood disorders, and medical conditions; in ICD-11 recognized as a specifier applicable to multiple conditions.*

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Central Sensitization *- A state where the nervous system becomes persistently sensitized to nociceptive input, generating pain in response to stimuli that would not normally be painful and amplifying pain responses.*

Cholinergic Hypothesis of Delirium *- The theory that acute reduction in cholinergic neurotransmission is a central mechanism in delirium, supported by the observation that anticholinergic drugs reliably produce delirium.*

Circadian Rhythm Sleep-Wake Disorders *- Sleep disorders including delayed sleep-wake phase disorder, advanced sleep-wake phase disorder, shift work sleep disorder, and jet lag disorder caused by misalignment between internal circadian timing and social schedules.*

Civil Forensic Psychiatry *- The domain of forensic psychiatry addressing mental health dimensions of civil legal proceedings including guardianship, capacity assessments, psychiatric aspects of personal injury claims, and child custody disputes.*

Clozapine *- The only antipsychotic with established efficacy for treatment-resistant schizophrenia; requires mandatory blood monitoring for agranulocytosis and has unique anti-suicide properties.*

Cobenfy (xanomeline-trospium chloride) *- The first antipsychotic approved for schizophrenia that does not primarily work through dopamine receptor blockade, acting as a muscarinic M1 and M4 receptor agonist; approved by FDA in 2024.*

Cognitive Behavioral Therapy (CBT) *- A structured, time-limited, present-focused treatment helping patients identify, examine, and challenge negative thought patterns; the most extensively researched psychotherapeutic approach.*

Cognitive Behavioral Therapy for Insomnia (CBT-I) *- The most effective long-term treatment for chronic insomnia addressing cognitive and behavioral factors including sleep restriction, stimulus control, sleep hygiene education, relaxation techniques, and cognitive restructuring.*

Cognitive Behavioral Therapy for Psychosis (CBTp) *- An adaptation of CBT specifically developed for symptoms and challenges of schizophrenia, working collaboratively to explore evidence for beliefs, reduce distress, and develop coping strategies.*

Cognitive Remediation Therapy (CRT) *- Systematic practice on cognitive tasks to improve specific cognitive functions impaired in schizophrenia (attention, memory, executive function) and generalize improvements to real-world functioning.*

Cognitive Reserve *- The brain's resilience in the face of age-related change and pathological insult, built through education, bilingualism, occupational complexity, social engagement, and intellectual activities across the lifespan.*

Cognitive Triad *- Aaron Beck's concept of negative views of the self, the world, and the future that characterize and perpetuate depression.*

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Collaborative Care Model (CCM) *- An evidence-based approach integrating mental health care into general medical settings through proactive case finding, a care manager, a consulting psychiatrist, and stepped care.*

Common Factors *- Factors shared across all forms of psychotherapy including therapeutic alliance, empathy, positive regard, treatment credibility, and expectation of improvement; argued by some to account for most outcome variance.*

Complex PTSD (CPTSD) *- PTSD associated with exposure to prolonged or repetitive trauma from which escape is difficult or impossible, characterized by additional disturbances in self-organization including affect dysregulation, negative self-concept, and relational difficulties.*

Compulsions *- Repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession, aimed at reducing distress or preventing a feared outcome, typically following rigid rules.*

Conduct Disorder *- A persistent pattern of aggressive, destructive, deceitful, or seriously norm-violating behavior that causes significant impairment in social, academic, or occupational functioning.*

Confusion Assessment Method (CAM) *- The most widely validated instrument for detecting delirium at the bedside, based on four features: acute onset and fluctuating course, inattention, disorganized thinking, and altered level of consciousness.*

Consultation-Liaison Psychiatry (CLP) *- The subspecialty of psychiatry concerned with the interface between psychiatric and general medical conditions, encompassing consultation, liaison, and integration functions.*

Convention on the Rights of Persons with Disabilities (CRPD) *- The 2006 UN convention marking a paradigm shift from welfare and integration models to full inclusion, requiring equal legal capacity and supported decision-making for persons with disabilities including psychosocial disabilities.*

Conversion *- The psychoanalytic concept that the emotional charge associated with repressed memories is converted into physical symptoms that serve a symbolic function.*

Core Beliefs *- Fundamental schemas about the self, the world, and others that are formed in early experience and that shape all subsequent processing of information; the deepest level of cognitive structure in Beck's model.*

Correctional Psychiatry *- The provision of mental health services within prison systems, addressing the high prevalence of mental disorders among incarcerated populations.*

Cortico-Striato-Thalamo-Cortical (CSTC) Loop *- A set of parallel neural circuits connecting the prefrontal cortex, striatum (particularly the caudate nucleus), thalamus, and back to the prefrontal cortex; central to the neurobiology of OCD.*

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Courtesy Stigma (Associative Stigma) *- The stigma experienced by people who are closely associated with a person with mental illness, particularly family members; severe in Bangladesh where family reputation is central.*

Criminal Forensic Psychiatry *- The domain of forensic psychiatry addressing the role of mental disorder in criminal behavior including fitness to stand trial, criminal responsibility (insanity defense), risk assessment for violence, and management of mentally disordered offenders.*

Cyclothymic Disorder *- At least two years of numerous periods of hypomanic symptoms that do not meet full criteria and numerous periods of depressive symptoms that do not meet full criteria.*

Cytochrome P450 (CYP) System *- The most important enzyme system for metabolism of most psychotropic drugs, showing extensive genetic variation between individuals and populations affecting drug response and risk of adverse effects.*

D

Decision Making Capacity *- The capacity to make a specific decision at a specific time, assessed along four dimensions: understanding, appreciation, reasoning, and expression of a choice.*

Defense Mechanisms *- Automatic psychological strategies used to manage anxiety and to protect from awareness of threatening thoughts, feelings, and impulses; systematized by Anna Freud.*

Deinstitutionalization *- The large-scale reduction in the number of patients residing in psychiatric hospitals, driven by the psychopharmacological revolution, changing legal and civil rights frameworks, the community mental health movement, and fiscal pressures.*

Delirium *- An acute disturbance of consciousness and cognition characterized by inattention, disorganized thinking, and fluctuating course; the most common psychiatric syndrome in general hospital settings, representing a medical emergency.*

Delirium Tremens (DT) *- The most severe manifestation of alcohol withdrawal, typically developing 48 to 72 hours after last drink, characterized by global confusion, severe autonomic hyperactivity, agitation, and vivid hallucinations; carries 5 to 15 percent mortality if untreated.*

Delusional Disorder *- A condition characterized by one or more persistent delusions in the absence of other characteristic symptoms of schizophrenia, with relatively preserved psychosocial functioning outside the area of the delusion.*

Delusions *- Pathological beliefs held with extraordinary certainty, not amenable to modification by experience or argument, and not shared by the person's cultural community.*

Dementia *- A syndrome due to disease of the brain, usually chronic or progressive, with disturbance of multiple higher cortical functions including memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgment, sufficiently severe to impair daily activities.*

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Dementia with Lewy Bodies (DLB) *- The third most common neurodegenerative dementia, characterized by fluctuating cognition, recurrent well-formed visual hallucinations, and parkinsonism; antipsychotics can cause severe neuroleptic sensitivity reactions.*

Demoralization *- A state of existential distress characterized by helplessness, hopelessness, meaninglessness, and loss of a sense of purpose; not identical to clinical depression, requiring different therapeutic approaches.*

Dependent Personality Disorder *- A pervasive and excessive need to be taken care of leading to submissive and clinging behavior and fears of separation.*

Depersonalization *- The experience of feeling detached from one's mental processes or body, as if one is an outside observer.*

Depersonalization and Derealization Disorder (DDD) *- Persistent or recurrent experiences of depersonalization, derealization, or both, with intact reality testing.*

Derealization *- The experience of feeling detached from one's surroundings, as if they are unreal or dreamlike.*

Detachment *- An ICD-11 personality trait domain referring to a pattern of social and emotional withdrawal manifesting as reduced engagement with others, restricted emotional expression, and preference for solitary activity.*

Developmental Psychopathology *- The scientific study of the development of mental disorders over the life course, treating atypical development as inseparable from typical development and conceiving of mental disorders as outcomes of developmental processes.*

Dhat Syndrome *- A culture-specific disorder characterized by weakness, fatigue, loss of appetite, weight loss, sadness, anxiety, cognitive difficulties, and sexual dysfunction attributed to loss of semen through masturbation, nocturnal emissions, or perceived loss in urine.*

Diabetes Distress *- The emotional burden associated specifically with the demands and challenges of diabetes management, more common than major depression in people with diabetes and more directly associated with self-management behaviors.*

Dialectical Behavior Therapy (DBT) *- An evidence-based treatment for borderline personality disorder developed by Marsha Linehan, combining individual therapy, skills training groups, telephone coaching, and therapist consultation teams; organized around the dialectic between acceptance and change.*

Diathesis-Stress Model *- A conceptual framework proposing that mental disorders arise from the interaction between predisposing vulnerability (diathesis) and precipitating stress.*

Digital Mental Health *- Technology-assisted psychological support including smartphone apps, internet-delivered CBT, telepsychiatry, conversational agents (chatbots), digital symptom monitoring, and crisis support services.*

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Disinhibition *- An ICD-11 personality trait domain referring to a persistent orientation toward immediate gratification at the expense of long-term goals and consequences, manifesting as impulsivity, risk-taking, and failure to follow through on plans.*

Dissociality *- An ICD-11 personality trait domain referring to disregard for the rights and feelings of others, including callousness, lack of empathy, deceitfulness, manipulativeness, and indifference to social norms.*

Dissociation *- A disruption in the normal integration of conscious awareness, memory, identity, emotion, perception, behavior, and sense of self.*

Dissociative Amnesia *- An inability to recall important autobiographical information, usually of a traumatic or stressful nature, that is inconsistent with ordinary forgetting.*

Dissociative Identity Disorder (DID) *- A condition characterized by the presence of two or more distinct personality states or an experience of possession, with recurrent gaps in recall of everyday events, important personal information, and/or traumatic events.*

Distress Thermometer *- A single-item visual analogue scale (0 to 10) with an accompanying problem list for screening distress in cancer patients, taking under two minutes to administer and validated across many cultural contexts.*

Dopamine Hypothesis *- The theory that the positive symptoms of schizophrenia arise from excessive dopaminergic activity, particularly in mesolimbic circuits; the most productive framework for drug development despite being oversimplified.*

Dopamine Hypothesis (Revised) *- The theory that the key pathophysiology involves aberrant dopamine activity, specifically inappropriate signaling of salience in response to stimuli that do not warrant such signaling.*

Double Empathy Problem *- Damian Milton's concept that the social difficulties of autistic people are not simply a deficit in social cognition but a genuine mismatch between autistic and non-autistic social styles, with misunderstanding operating in both directions.*

Duration of Untreated Psychosis (DUP) *- The time between onset of psychotic symptoms and initiation of treatment; a significant predictor of long-term outcome, with longer DUP associated with slower and less complete recovery.*

E

Early Maladaptive Schemas *- Stable cognitive-affective structures from early adverse childhood experiences that shape perceptions, emotions, and behaviors across a wide range of situations throughout life; central to schema therapy.*

Early Start Denver Model (ESDM) *- A naturalistic developmental behavioral intervention for young autistic children integrating developmental and relationship-based approaches with behavioral learning principles.*

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Egodystonic *- The quality of obsessions where the person recognizes that their obsessive thoughts are a product of their own minds and do not reflect their genuine values and intentions; distinguishes OCD from psychotic conditions.*

Electroconvulsive Therapy (ECT) *- A treatment inducing a generalized seizure through application of electrical current to the scalp under general anesthesia; highly effective for severe treatment-resistant depression, catatonia, and psychotic depression.*

Endocannabinoid System *- A neuromodulatory system including cannabinoid receptors (CB1 and CB2) and their endogenous ligands (anandamide and 2-arachidonoylglycerol), involved in reward, memory, and stress response.*

Epigenetics *- Changes in gene expression that do not involve changes in the DNA sequence itself, but that can be heritable and can be influenced by environmental factors; provides a molecular mechanism for lasting effects of early adversity.*

Equifinality *- The principle in developmental psychopathology that the same outcome can arise through very different developmental pathways.*

Esketamine *- The S-enantiomer of ketamine approved as an intranasal spray for treatment-resistant depression and major depressive disorder with acute suicidal ideation; has a more convenient route of administration than intravenous ketamine.*

Existential Psychotherapy *- A therapeutic approach focusing on ultimate concerns including death, freedom, isolation, and meaninglessness; associated with Irvin Yalom and Viktor Frankl.*

Explanatory Models *- Arthur Kleinman's concept of the ideas that patients, families, and healers have about illness including its cause, its mechanism, its course, and its appropriate treatment.*

Exposure and Response Prevention (ERP) *- The psychological treatment of choice for OCD, involving two components applied together: exposure (deliberately confronting triggers) and response prevention (refraining from performing compulsions).*

Expressed Emotion (EE) *- A measure of the quality of family members' emotional attitudes toward a patient with mental disorder, assessing critical comments, hostility, and emotional over-involvement; high EE predicts relapse in schizophrenia.*

Externalizing the Problem *- A narrative therapy technique separating the symptom or problem from the person's identity, allowing it to be addressed without the patient being defined by it.*

Extrapyramidal Side Effects (EPS) *- Movement disorders caused by antipsychotic medications including acute dystonias, akathisia, parkinsonism, and tardive dyskinesia.*

F

Factitious Disorder *- The falsification of physical or psychological symptoms, or the induction of injury or disease, in oneself (factitious disorder imposed on self) or in another (factitious disorder imposed on another, previously called Munchausen syndrome by proxy).*

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Family-Based Treatment (FBT) *- The most evidence-supported intervention for adolescent anorexia nervosa, involving parents in the active management of their child's eating in the early phase of treatment.*

Family Psychoeducation *- The best-evidenced family-based intervention in psychiatry, including education about illness, training in recognition of early warning signs of relapse, communication skills training, and problem-solving skills training; reduces relapse in schizophrenia.*

Fear *- The emotional and physiological response to a real or perceived immediate threat; distinguished from anxiety which is a forward-looking apprehension about possible future threat.*

Fear Extinction *- The gradual reduction in fear responses to stimuli that are no longer associated with real danger; mediated by the ventromedial prefrontal cortex; the neural mechanism underlying exposure-based psychotherapies.*

First-Generation Antipsychotics (FGAs) *- Typical antipsychotics discovered in the 1950s and 1960s sharing the common mechanism of dopamine D2 receptor blockade; include chlorpromazine and haloperidol.*

First-Rank Symptoms *- Kurt Schneider's set of symptoms believed to be of particular diagnostic value for schizophrenia, including auditory hallucinations of specific types, thought insertion, thought withdrawal, thought broadcasting, made feelings, and delusional perception.*

Fitness to Stand Trial *- The legal concept that a defendant must be able to understand the nature of proceedings, give meaningful instructions to legal representatives, and enter a plea; distinct from criminal responsibility.*

Five Factor Model (FFM) *- The five broad dimensions of normal personality derived from factor-analytic studies across many cultures: Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness.*

Forensic Psychiatry *- The subspecialty of psychiatry concerned with the application of psychiatric knowledge and clinical expertise to legal and criminal justice settings.*

Formal Thought Disorder *- Disturbance in the form or organization of thinking, as distinct from the content of thought; detected primarily through observation of speech including loosening of associations, tangentiality, poverty of thought, thought blocking, and neologisms.*

Frontotemporal Dementia (FTD) *- A group of neurodegenerative conditions characterized by progressive degeneration of the frontal and temporal lobes, producing prominent changes in personality, behavior, and language rather than the memory impairment that dominates early Alzheimer's disease.*

Functional Neurological Disorder (FND) *- A condition characterized by symptoms of altered voluntary motor or sensory function, with clinical findings incompatible with recognized neurological or medical conditions; the contemporary term for conversion disorder.*

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Functionalism *- The philosophical position that mental states are defined not by their physical composition but by their functional role, specifically by their causal relationships to sensory inputs, behavioral outputs, and other mental states.*

G

GABA (Gamma-Aminobutyric Acid) *- The brain's principal inhibitory neurotransmitter; the benzodiazepines work by enhancing GABA-mediated inhibition; the GABA system is implicated in anxiety disorders.*

Gender Dysphoria *- A marked incongruence between one's experienced or expressed gender and assigned gender, accompanied by clinically significant distress or functional impairment.*

Gender Incongruence *- The ICD-11 category moved from the mental disorders chapter to the chapter on conditions related to sexual health, reflecting the growing consensus that gender diversity is not a mental illness.*

Generalized Anxiety Disorder (GAD) *- An anxiety disorder characterized by excessive and uncontrollable worry about multiple topics, events, or activities, accompanied by restlessness, fatigue, concentration difficulty, irritability, muscle tension, or sleep disturbance.*

Geriatric Psychiatry *- The subspecialty of psychiatry concerned with the mental health of older adults, conventionally defined as those aged 60 years and above.*

Global Mental Health Movement *- A movement advocating for the scale-up of community-based mental health services in low- and middle-income countries through the integration of mental health into primary care and the training of non-specialist health workers (task-sharing).*

Glutamate Hypothesis *- The theory that NMDA receptor hypofunction in GABAergic interneurons produces cortical dysregulation and downstream subcortical dopamine elevation, contributing to schizophrenia pathophysiology.*

Glymphatic System *- A waste clearance system in the brain that operates primarily during sleep, using cerebrospinal fluid to flush the interstitial space and remove metabolic waste products including amyloid-beta and tau.*

Guardianship *- A substitute decision-making framework where a guardian makes decisions on behalf of a person with mental illness; the traditional model in mental health law, increasingly challenged by supported decision-making requirements of the CRPD.*

Gut-Brain Axis *- The bidirectional communication network linking the enteric nervous system (the brain in the gut, consisting of approximately 500 million neurons) to the central nervous system.*

H

Hallucinations *- Percepts arising in the absence of an adequate external stimulus, with the full quality of real perceptions; the most common in schizophrenia are auditory hallucinations.*

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Harmful Dysfunction Analysis *- Jerome Wakefield's proposal that a mental disorder is present when a psychological mechanism fails to perform its natural evolved function (dysfunction) and this failure causes harm to the individual.*

Health Anxiety *- A preoccupation with having or acquiring a serious, undiagnosed medical illness, with high health-related anxiety and heightened sensitivity to bodily symptoms; classified as illness anxiety disorder in DSM-5.*

Hijra *- A legally recognized third gender category in Bangladesh, encompassing individuals assigned male at birth who identify with a gender identity that is neither conventionally male nor female, with a distinct social role.*

Histrionic Personality Disorder *- A pattern of pervasive and excessive emotionality and attention-seeking, with discomfort when not the center of attention, seductive or provocative behavior, rapidly shifting and shallow emotional expression, and impressionistic speech.*

Hospital Elder Life Program (HELP) *- A multi-component intervention addressing six established delirium risk factors (cognitive impairment, sleep deprivation, immobility, visual impairment, hearing impairment, dehydration), reducing delirium incidence by approximately 30 to 40 percent.*

HPA Axis Dysregulation *- Hyperactivity of the hypothalamic-pituitary-adrenal axis manifest as elevated basal cortisol levels and impaired negative feedback, one of the most replicated biological findings in depression.*

Hyperactive Delirium *- The most visible delirium subtype characterized by agitation, restlessness, picking at lines, shouting, attempting to leave the bed, and visual or auditory hallucinations.*

Hypoactive Delirium *- The most common but least visible delirium subtype characterized by drowsiness, withdrawal, reduced responsiveness, psychomotor slowing, and quiet confusion; frequently mistaken for sedation, severe depression, or expected behavior of a very ill patient.*

I

ICD-11 Personality Disorder Classification *- A dimensional system with global severity rating (personality difficulty, mild personality disorder, moderate personality disorder, severe personality disorder) and optional trait qualifiers (Negative Affectivity, Detachment, Dissociality, Disinhibition, Anankastia, plus Borderline Pattern specifier).*

Idioms of Distress *- Culturally specific ways of experiencing and communicating psychological suffering; in Bangladesh, psychological distress is often expressed through somatic symptoms such as headache, chest tightness, palpitations, and a sense of heat or burning in the body.*

Illness Anxiety Disorder *- A condition characterized by high anxiety about having or developing a serious illness, with excessive health-related behaviors or maladaptive avoidance, without prominent somatic symptoms.*

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Incentive Salience Theory *- The theory that addiction involves a distinction between wanting (motivational drive) and liking (hedonic pleasure), with the wanting system becoming hypersensitized while the liking system becomes desensitized.*

Individual Placement and Support (IPS) *- The most evidence-based supported employment model for serious mental illness, built on eight principles including rapid placement, client preference, integration with mental health treatment, and individualized follow-along support; produces competitive employment rates of approximately 50 to 60 percent.*

Inflammaging *- A state of low-grade chronic neuroinflammation in the aging brain driven by accumulation of cellular damage, progressive loss of regulatory mechanisms, and increased blood-brain barrier permeability.*

Inflammatory Hypothesis of Depression *- The proposal that inflammatory processes play an important causal role in at least a substantial subtype of major depressive disorder, supported by elevated inflammatory markers in depressed patients and antidepressant effects of anti-inflammatory interventions.*

Informed Consent *- The process by which a patient makes decisions about medical treatment based on understanding of the nature, purpose, benefits, risks, and alternatives of the proposed treatment, with genuine freedom of choice.*

Insomnia Disorder *- Dissatisfaction with sleep quality or quantity, characterized by difficulty initiating sleep, difficulty maintaining sleep, or both, causing significant distress or daytime functional impairment, occurring at least three nights per week for at least three months.*

Insulin Coma Therapy *- A historical biological treatment for schizophrenia involving induction of profound hypoglycemia through insulin injection to produce coma; used until the 1960s, now obsolete.*

Intellectual Developmental Disorder (IDD) *- A condition characterized by significant limitations both in intellectual functioning (reasoning, problem solving, planning, abstract thinking, judgment, academic learning, learning from experience) and in adaptive behavior (conceptual, social, and practical adaptive skills), originating during the developmental period.*

Internet-Delivered CBT (iCBT) *- Structured CBT content delivered through a web-based platform with or without minimal therapist support; the most extensively researched digital mental health modality.*

Interoception *- The brain's processing of signals arising from the internal organs and tissues of the body; central to the neurobiology of somatic symptom disorders and anxiety.*

Interpersonal Therapy (IPT) *- A structured, time-limited treatment for depression focusing specifically on the interpersonal context in which depressive episodes develop and are maintained, with four problem areas: grief, role transitions, role disputes, and interpersonal deficits.*

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Invalidating Environment *- In Linehan's biosocial theory, a childhood social environment that consistently fails to acknowledge, accept, and validate the individual's emotional experiences; a key factor in borderline personality disorder development.*

Involuntary Treatment *- The administration of treatment to a person who has not consented to it, or detention in a psychiatric facility against their will; one of the most ethically contentious practices in psychiatry.*

K

Ketamine *- An NMDA glutamate receptor antagonist developed in the 1960s as a dissociative anesthetic; produces rapid antidepressant effects within hours of a single intravenous infusion, far faster than conventional antidepressants.*

Korsakoff's Syndrome *- A chronic amnestic condition characterized by severe and largely irreversible inability to form new long-term memories (anterograde amnesia) and variable retrograde amnesia, with confabulation; caused by thiamine deficiency, most commonly in the context of heavy alcohol use.*

L

Lamotrigine *- A mood stabilizer with particular advantage in bipolar disorder: substantially more effective in preventing depressive episodes than manic episodes; requires slow titration due to risk of Stevens-Johnson syndrome.*

Late Life Depression *- Depression in older adults with distinctive clinical features including prominence of somatic and cognitive symptoms relative to subjective experience of depressed mood.*

Late Onset Stress Symptomatology (LOSS) *- The recurrence or intensification of trauma symptoms in old age when retirement, the deaths of contemporaries, physical illness, and the quieter landscape of old age allow previously suppressed memories and emotions to surface.*

Liaison Function *- The proactive engagement of the psychiatrist with a particular clinical team through regular joint ward rounds, teaching, case discussions, and collaborative care planning, building a sustained collaborative relationship.*

Light Therapy (Phototherapy) *- Daily exposure to bright artificial light of standardized intensity (typically 10,000 lux for 20 to 30 minutes in the morning); the treatment of choice for seasonal affective disorder.*

Lithium *- The prototypical mood stabilizer, a simple metal with potent effects on brain mood regulation; the gold standard for bipolar maintenance treatment, with unique anti-suicidal properties.*

Long-Acting Injectable Antipsychotics (LAIs) *- Antipsychotic formulations administered as intramuscular injections at intervals ranging from two weeks to three months, providing*

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sustained therapeutic drug levels without requiring daily oral dosing; particularly valuable for patients with poor medication adherence.

Lunacy Act 1912 *- The colonial-era legislation governing mental health in British India, designed primarily for custodial and administrative management of persons deemed dangerous or disruptive; replaced by the Mental Health Act 2018 after more than a century.*

M

M'Naghten Rules *- The 1843 legal standard establishing that a person is not criminally responsible for their actions if, at the time of the act, they were laboring under such a defect of reason, from disease of the mind, as either not to know the nature and quality of the act, or, if they did know it, not to know that it was wrong.*

Major Depressive Disorder (MDD) *- A condition characterized by five or more depressive symptoms present during the same two-week period and representing a change from previous functioning, with at least one symptom being depressed mood or loss of interest/pleasure.*

Manic Episode *- A distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased goal-directed activity or energy, lasting at least one week, with associated symptoms including grandiosity, decreased need for sleep, pressured speech, racing thoughts, distractibility, increased goal-directed activity, and excessive involvement in high-risk activities.*

Mass Psychogenic Illness (MPI) *- The rapid spread of illness symptoms among members of a cohesive social group without an identifiable organic cause; documented in Bangladeshi garment factories and schools.*

Means Restriction *- Policies to reduce access to the most lethal means of suicide, one of the most evidence-based and effective suicide prevention interventions; particularly relevant in rural Bangladesh where organophosphate pesticides are the predominant method.*

Medicalization of Deviance *- Peter Conrad's concept describing the process by which behaviors and experiences once understood as moral failures, social problems, or simply aspects of human variation come to be redefined as medical conditions requiring treatment.*

Medications for Opioid Use Disorder (MOUD) *- Methadone, buprenorphine, and naltrexone which dramatically reduce mortality, reduce illicit drug use, reduce criminal activity, and improve social functioning in opioid use disorder.*

Melancholic Depression *- A subtype of major depressive disorder characterized by pervasive anhedonia, early morning awakening, psychomotor disturbance, weight loss, and a mood quality distinct from ordinary sadness; thought to reflect a more biological form of depression with more pronounced HPA axis dysregulation.*

Melatonin *- A hormone regulating sleep-wake cycles; has good evidence for improving sleep onset difficulties in autism, generally well tolerated and available in Bangladesh.*

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Mental Health Act 2018 (MHA 2018) *- Bangladesh's legislation replacing the Lunacy Act 1912, introducing a rights-based framework, treatment categories (voluntary, non-protesting, and involuntary), oversight mechanisms, and patients' rights provisions.*

Mental Health Gap Action Programme (mhGAP) *- WHO program launched in 2008 providing a practical implementation framework for scaling up mental health care in low- and middle-income countries, with specific guidelines for management of priority conditions in non-specialist settings.*

Mental State Examination (MSE) *- A systematic assessment of the patient's psychological functioning at a particular point in time, analogous to the physical examination in general medicine; includes appearance and behavior, speech, mood and affect, thought form and content, perceptions, cognition, insight, and judgment.*

Mentalization *- The capacity to understand one's own and others' behavior in terms of underlying mental states including thoughts, feelings, desires, intentions, and beliefs; a key capacity impaired in borderline personality disorder.*

Mentalization-Based Treatment (MBT) *- An evidence-based treatment for borderline personality disorder developed by Peter Fonagy and Anthony Bateman, focused on developing or restoring the capacity to understand behavior in terms of mental states.*

Mesolimbic Dopamine System *- The neural circuit originating in the ventral tegmental area of the midbrain and projecting to the nucleus accumbens; the core of the brain's reward system, critically involved in addiction.*

Metabolizer Phenotypes *- Classifications of individuals as poor, intermediate, extensive, or ultrarapid metabolizers based on genetic variation in CYP enzyme activity, affecting drug metabolism and response.*

Methamphetamine-Induced Psychosis *- A psychotic syndrome caused by heavy methamphetamine use, clinically indistinguishable from paranoid schizophrenia in cross-section, typically resolving with abstinence and antipsychotic treatment.*

Methylphenidate *- A stimulant medication that inhibits reuptake of dopamine and norepinephrine into the presynaptic neuron; the most extensively studied and most effective pharmacological treatment for ADHD.*

mhGAP (Mental Health Gap Action Programme) *- WHO program providing practical implementation framework for scaling up mental health care in low- and middle-income countries through non-specialist providers; the Intervention Guide provides simplified clinical algorithms for assessment and management of priority conditions.*

Mild Cognitive Impairment (MCI) *- A state of objective cognitive decline that exceeds what would be expected for age and education level but does not impair daily functioning sufficiently to qualify as dementia; a substantial proportion progress to Alzheimer's disease dementia.*

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Mindfulness *- A mode of attention characterized by deliberate, non-judgmental awareness of present-moment experience, including thoughts, emotions, physical sensations, and perceptions; derived from Buddhist contemplative tradition.*

Mindfulness-Based Cognitive Therapy (MBCT) *- An integration of mindfulness practices with elements of CBT specifically designed to prevent depressive relapse in people with three or more previous episodes; reduces relapse rates by approximately 40 to 50 percent.*

Mirtazapine *- A tetracyclic antidepressant with a distinctive mechanism (antagonism of alpha-2 adrenergic receptors and certain serotonin receptors); produces sedation and weight gain, useful for patients with prominent insomnia and weight loss.*

Mixed States *- The simultaneous presence of features of both depression and mania or hypomania; associated with higher rates of suicide, more severe impairment, and a different, often more complex, pharmacological treatment response.*

Monoamine Hypothesis *- The theory that depression is caused by a functional deficiency of serotonin, norepinephrine, or dopamine at synaptic clefts; now recognized as incomplete, with current understanding involving neuroplasticity, inflammation, and HPA axis dysregulation.*

Mood Stabilizers *- Medications that are the pharmacological backbone of bipolar treatment, effective in acute mania, bipolar depression, and maintenance treatment; include lithium, valproate, and lamotrigine.*

Moral Treatment Movement *- An approach to mental illness that emerged in the late eighteenth century, based on the idea that mental illness was not simply a disease of the brain but a disorder of the moral and emotional life of the person, amenable to treatment through humane environment, structured activity, social engagement, and therapeutic relationship.*

Multifinality *- The principle in developmental psychopathology that the same risk factor or early experience can lead to very different outcomes in different individuals.*

N

Naloxone *- A pure opioid antagonist that reverses opioid overdose within two to five minutes of administration; can be administered intramuscularly, intravenously, or intranasally.*

Narcissistic Personality Disorder (NPD) *- A pervasive pattern of grandiosity, need for admiration, and lack of empathy, with associated features including entitlement, exploitation of others, arrogance, envy, and conviction of one's own unique importance.*

Narcolepsy *- A chronic neurological sleep disorder characterized by excessive daytime sleepiness, cataplexy (sudden loss of muscle tone triggered by strong emotion), sleep paralysis, and hypnagogic hallucinations; caused by autoimmune destruction of orexin-producing neurons in narcolepsy type 1.*

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Narrative Therapy *- An approach developed by Michael White and David Epston based on the understanding that human beings give meaning to experiences through stories, and that problems arise when people become trapped in problem-saturated stories.*

Negative Affectivity *- An ICD-11 personality trait domain referring to the pervasive experience of a wide range of negative emotions as disproportionately intense, frequent, and difficult to regulate.*

Negative Symptoms *- Symptoms representing the diminution or absence of normal functions in schizophrenia, including affective flattening (blunted affect), alogia (poverty of speech), avolition (reduced motivation), anhedonia (reduced capacity to experience pleasure), and asociality (reduced desire for social interaction).*

Neurodevelopmental Disorder *- A condition with onset in the developmental period, characterized by developmental deficits that produce impairments in personal, social, academic, or occupational functioning; includes autism spectrum disorder, ADHD, and intellectual developmental disorder.*

Neurodiversity *- The concept that neurological variation among human beings, including the variations labeled as autism, ADHD, dyslexia, and other neurodevelopmental conditions, should be understood as a natural form of human diversity rather than as defects or disorders.*

Neuroplasticity *- The brain's property of changing continuously in response to experience, including synaptic plasticity (changes in connection strength), structural plasticity (changes in neuron number and morphology), and neurogenesis (birth of new neurons).*

Neuropsychiatry *- The subspecialty concerned with the psychiatric manifestations of neurological disease and the neurological aspects of psychiatric conditions.*

Neuroticism *- A dimension of normal personality in the Five Factor Model, characterized by tendency to experience negative emotions; high neuroticism is a risk factor for depression and anxiety disorders.*

NMDA Receptor Hypofunction Model *- The theory that NMDA receptor hypofunction on GABAergic interneurons in the prefrontal cortex leads to dysregulated cortical activity and downstream elevated subcortical dopamine release, contributing to schizophrenia pathophysiology.*

Non-Protesting Patient *- An MHA 2018 category for persons with mental illness who lack the capacity to form an opinion about their need for admission and who neither consent to nor actively resist admission; an intermediate category between voluntary and involuntary.*

Norepinephrine (Noradrenaline) *- A neurotransmitter involved in arousal, attention, and the stress response; plays a role in both mood disorders and anxiety disorders.*

O

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Object Relations Theory *- A psychoanalytic tradition focusing on the internal world of the mind, specifically on the mental representations of self and others (internal objects) that develop through early relational experience and shape subsequent interpersonal functioning.*

Obsessions *- Intrusive, persistent, unwanted thoughts, images, or urges that cause significant distress; in OCD, they are egodystonic (recognized as a product of one's own mind that does not reflect genuine values).*

Obstructive Sleep Apnea (OSA) *- A breathing-related sleep disorder caused by repeated upper airway obstruction during sleep producing hypoxemia, arousal, and sleep fragmentation; associated with hypertension, cardiovascular disease, type 2 diabetes, cognitive impairment, and depression.*

Opioid Substitution Therapy (OST) *- The administration of a long-acting oral opioid (methadone or buprenorphine) to reduce or eliminate illicit opioid use, suppress withdrawal symptoms, reduce craving, and provide a stable platform for psychosocial recovery.*

Orexin (Hypocretin) System *- A neurotransmitter system originating in the lateral hypothalamus that plays an important role in arousal, food seeking, and the motivation to obtain rewards; its destruction causes narcolepsy type 1.*

P

Panic Attack *- An abrupt surge of intense fear or intense discomfort that reaches a peak within minutes, during which at least four of thirteen specific symptoms occur including palpitations, sweating, trembling, shortness of breath, choking sensation, chest pain, nausea, dizziness, chills or heat sensations, paresthesias, derealization or depersonalization, fear of losing control, and fear of dying.*

Panic Disorder *- A condition characterized by recurrent unexpected panic attacks and the development of persistent concern about future attacks or significant maladaptive behavioral change related to the attacks.*

Paranoid Personality Disorder *- A pervasive pattern of distrust and suspiciousness of others such that their motives are interpreted as malevolent, without adequate justification.*

Paraphilic Disorders *- Conditions in which intense and persistent sexual arousal to atypical objects, situations, or individuals causes significant distress to the person or involves harm to others.*

Parents' Maintenance Act 2013 *- Bangladeshi legislation creating a legal obligation for adult children to financially support their elderly parents, with penalties for non-compliance.*

Pedophilic Disorder *- A paraphilic disorder characterized by sexual arousal toward prepubescent children; the most clinically and socially significant paraphilic disorder.*

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Perinatal Depression *- Depression during pregnancy and in the first year after delivery; in Bangladesh, affects an estimated 20 to 30 percent of women, with even higher rates in low-income, rural, and violence-exposed populations.*

Persistent Depressive Disorder (Dysthymia) *- A chronic form of depression in which the person experiences depressed mood for most of the day, more days than not, for at least two years, with symptoms typically less severe than in major depressive disorder but producing substantial cumulative disability.*

Personality *- The enduring patterns of cognition, emotion, motivation, and behavior that characterize an individual and distinguish them from others; relatively stable across time and situations.*

Personality Disorder *- An enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has its onset in adolescence or early adulthood, is stable over time, and leads to distress or functional impairment.*

Pharmacodynamics *- What the drug does to the body: its mechanism of action and dose-response relationship.*

Pharmacogenomics *- The study of how genetic variation influences drug response, with the dual goals of predicting which patients will respond to particular medications and which will experience adverse effects, and identifying patients for whom dose adjustments are needed.*

Pharmacokinetics *- What the body does to the drug: absorption, distribution, metabolism, and elimination.*

Phenomenology *- The philosophical tradition that emphasizes first-person subjective experience as the primary datum of any account of mind and mental illness; associated with Edmund Husserl, Martin Heidegger, and Maurice Merleau-Ponty.*

Physicalism *- The philosophical position that mental phenomena are ultimately identical to or fully reducible to physical (especially neural) phenomena.*

Placebo Effect *- Genuine clinical improvement from an inert substance or sham procedure through non-specific mechanisms including the patient's expectation of improvement, the therapeutic relationship with the clinician, and the natural course of the illness.*

Polygenic Risk Score (PRS) *- A computational tool that aggregates the effects of thousands of common genetic variants to estimate an individual's inherited genetic propensity for a particular condition.*

Polypharmacy *- The concurrent use of multiple medications; common in psychiatric practice but often irrational; sometimes evidence-based (e.g., antidepressant plus mood stabilizer in bipolar depression), often problematic (e.g., multiple antipsychotics without evidence of additive benefit).*

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Positive Symptoms *- Symptoms representing an addition or distortion of normal mental functioning in schizophrenia, including hallucinations, delusions, and disorganized thinking and speech.*

Possession Trance Disorder *- An ICD-11 category for possession or trance states experienced as unwanted and involuntary, causing significant distress or functional impairment, and not a normal part of a broadly accepted cultural or religious practice.*

Post-Intensive Care Syndrome (PICS) *- A cluster of new or worsening psychological and cognitive problems emerging after ICU discharge and persisting beyond acute illness, including cognitive impairment, depression, anxiety, and PTSD, affecting approximately 30 to 50 percent of ICU survivors.*

Post-Traumatic Stress Disorder (PTSD) *- A disorder following exposure to a threatened or actual death, serious injury, or sexual violence, characterized by three symptom clusters (ICD-11): re-experiencing the traumatic event, avoidance of traumatic reminders, and a persistent sense of current threat (hypervigilance and exaggerated startle response).*

Postpartum Depression *- Depression occurring in the weeks and months following childbirth; in Bangladesh, estimated prevalence of approximately 20 to 25 percent, reflecting elevated burden of social risk factors.*

Postpartum Psychosis *- A rare but severe condition occurring in approximately 1 to 2 per 1000 deliveries, typically presenting within the first two weeks after delivery with rapidly evolving psychosis, mania, confusion, and profound mood disturbance; a psychiatric emergency strongly associated with bipolar disorder.*

Precision Psychiatry *- An approach that draws on developments in genomics, neuroimaging, computational biology, and data science to develop methods for predicting, with greater precision than is currently possible, which treatments will be most effective for which patients.*

Predictive Processing Framework *- A theoretical framework proposing that the brain constantly generates predictions about incoming sensory input based on prior experience, with prediction errors updating the brain's model of the world; applied to somatic symptom disorders and autism.*

Prefrontal Cortex *- The most anterior part of the frontal lobe, responsible for executive functions including planning, decision-making, impulse control, and social behavior; abnormalities found in a wide range of psychiatric conditions.*

Pregabalin *- An alpha-2-delta calcium channel ligand with efficacy in generalized anxiety disorder; does not produce the same kind of physiological dependence as benzodiazepines, though misuse is possible.*

Primary Prevention *- Public mental health interventions aiming to prevent the onset of mental disorders by addressing risk factors and strengthening protective factors in the population.*

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Prison Mental Health In-Reach *- Services where qualified mental health professionals visit prisons regularly to conduct assessments and provide treatment.*

Prolonged Grief Disorder (PGD) *- A pervasive grief reaction following bereavement that persists for at least six months (some criterion sets specify twelve months), characterized by intense yearning or longing for the deceased or persistent preoccupation with the deceased, and associated with significant functional impairment.*

Proshanti *- A Bangladeshi residential community rehabilitation program for persons with severe mental illness who have been abandoned or marginalized; recognized by WHO South-East Asia Region in 2024 for its innovative approach.*

Pseudodementia *- A reversible cognitive impairment caused by severe depression that can be mistaken for genuine dementia; typically resolves with effective treatment of the depression.*

Psychedelic-Assisted Therapy *- The use of psychedelic substances including psilocybin and MDMA in carefully controlled therapeutic settings with professional psychological support for treatment-resistant conditions including depression, PTSD, and addiction.*

Psychiatry *- The branch of medicine concerned with the diagnosis, treatment, and prevention of mental disorders; operates at the intersection of biology, psychology, social science, philosophy, and ethics.*

Psychodynamic Model *- The framework concerned with the unconscious dimensions of mental life and the ways in which experiences, emotions, and conflicts not accessible to conscious awareness shape thoughts, feelings, behaviors, and symptoms.*

Psychological First Aid (PFA) *- A framework for providing initial psychological support to people in the immediate aftermath of a disaster, emergency, or traumatic event; based on evidence that the most important factors protecting against PTSD are safety, calming, connectedness, self-efficacy, and hope.*

Psychological Flexibility *- The capacity to have difficult thoughts and emotions without being dominated by them while continuing to act in alignment with deeply held values; the central target of Acceptance and Commitment Therapy.*

Psychoneuroimmunology *- The study of bidirectional communication between the nervous system, the endocrine system, and the immune system, demonstrating that psychological states affect physical health and that physical illness affects psychological well-being through biological pathways.*

Psychopathy *- A syndrome characterized by superficial charm, apparent normality, persistent antisocial behavior, shallow emotions, lack of anxiety, and incapacity for genuine love or loyalty; distinct from antisocial personality disorder which emphasizes behavioral criteria.*

Psychopharmacological Revolution *- The period from the 1950s onward marked by the discovery of chlorpromazine (1952), the first antidepressants (1957), lithium (1949), and*

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benzodiazepines (1960s), which fundamentally transformed the management of psychiatric conditions.

Psychosis *- A clinical syndrome characterized by hallucinations (perceptions without an adequate external stimulus), delusions (fixed false beliefs), disorganized thinking and speech, and grossly disorganized or abnormal motor behavior.*

Psychosocial Rehabilitation (PSR) *- The range of interventions designed to support persons with serious mental illness in developing the skills and accessing the supports needed to lead satisfying and meaningful lives in the community, including skills training, cognitive remediation, supported employment, family education, peer support, and community support services.*

Public Mental Health *- The application of public health principles and methods to the domain of mental health, including the epidemiology of mental disorders, identification of modifiable risk and protective factors, development and evaluation of prevention and promotion interventions, and use of policy as a lever for improving population mental health.*

R

REM Sleep Behavior Disorder (RBD) *- A parasomnia in which the normal muscle atonia of REM sleep is absent and the person physically acts out dream content; particularly important because it is often a prodrome of synucleinopathy (Parkinson's disease, Lewy body dementia, multiple system atrophy).*

Recovery Model *- A framework that defines recovery not as the elimination of symptoms but as a deeply personal, unique process of changing one's attitudes, values, feelings, goals, skills, and roles; a process of living a satisfying, hopeful, and contributing life even within the limitations caused by illness.*

Relational Frame Theory (RFT) *- The scientific framework underlying Acceptance and Commitment Therapy, providing an account of how human language and cognition create both extraordinary human capabilities and characteristic forms of suffering.*

Resilience *- Positive adaptation in the context of significant adversity; the capacity to maintain or regain psychological functioning despite exposure to conditions that disrupt or impair functioning in many children.*

Restless Legs Syndrome *- A sleep disorder characterized by urges to move the legs, particularly at rest and in the evening, causing significant sleep disruption.*

S

Schizoaffective Disorder *- A condition diagnosed when there is an uninterrupted period of illness during which there are both prominent psychotic symptoms (meeting criteria for schizophrenia) and a major mood episode (either depressive or manic), with psychotic symptoms also present for at least two weeks in the absence of the mood episode.*

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Schizoid Personality Disorder *- A pervasive pattern of detachment from social relationships and a restricted range of expression of emotions in interpersonal settings, with little interest in or desire for close relationships.*

Schizophrenia *- A psychotic disorder characterized by the presence of two or more of the following for a significant portion of a one-month period: persistent delusions, persistent hallucinations, disorganized thinking, experiences of influence/passivity/control, negative symptoms, or grossly disorganized behavior (including catatonia), causing significant functional impairment.*

Schizotypal Personality Disorder (Schizotypal Disorder) *- A condition characterized by a consistent pattern of peculiarities in perception, thought, communication, and behavior, including odd beliefs and magical thinking, unusual perceptual experiences, eccentric behavior, paranoid ideation, and social isolation; classified within the schizophrenia spectrum in ICD-11.*

School Refusal *- The persistent refusal to attend school or to stay at school; a clinical presentation of significant practical importance in Bangladesh with multiple causes including separation anxiety, social anxiety, depression, bullying, academic failure, and family factors.*

Secondary Prevention *- Public mental health interventions aiming to reduce the burden of existing disorders by detecting them early and treating them promptly before they become severe and chronic.*

Second-Generation Antipsychotics (SGAs) *- Atypical antipsychotics introduced in the 1990s, including clozapine, risperidone, olanzapine, quetiapine, aripiprazole, and others; have a reduced (though not absent) propensity for extrapyramidal side effects but significant metabolic side effects including weight gain, dyslipidemia, and glucose dysregulation.*

Section 84 of Bangladesh Penal Code *- The insanity defense provision derived from M'Naghten rules: nothing is an offence which is done by a person who, at the time of doing it, by reason of unsoundness of mind, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law.*

Selective Serotonin Reuptake Inhibitors (SSRIs) *- Antidepressants that selectively inhibit the reuptake of serotonin into the presynaptic neuron; first-line pharmacological treatment for depression and anxiety disorders; include fluoxetine, sertraline, escitalopram, paroxetine, citalopram, and fluvoxamine.*

Sensitive Periods *- Phases in development during which the developing brain is particularly responsive to specific environmental inputs; the most important mental health sensitive period is the first three years of life for the development of stress response systems.*

Separation Anxiety Disorder *- The most common anxiety disorder in young children, characterized by excessive distress when separated from attachment figures, often accompanied by school refusal.*

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Serotonin *- A neurotransmitter involved in the regulation of mood, sleep, appetite, and impulse control; the serotonin system has been most prominently associated with depression and anxiety disorders.*

Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs) *- Antidepressants that inhibit the reuptake of both serotonin and norepinephrine; include venlafaxine and duloxetine.*

Shasthya Shabika *- Female community health worker in Bangladesh embedded in communities; represents a potential platform for mental health task-sharing at scale.*

Short-Term Psychodynamic Psychotherapy (STPP) *- Delivery of core psychodynamic therapeutic elements in a time-limited format of typically 12 to 24 sessions; has accumulated an evidence base comparable to CBT for depression and anxiety disorders.*

Sickness Behavior *- A characteristic behavioral syndrome (fatigue, social withdrawal, reduced appetite, increased sleep, reduced interest in pleasure, concentration difficulties, low mood) mediated by central nervous system effects of pro-inflammatory cytokines; represents an evolutionarily adaptive response to infection.*

Social Anxiety Disorder (SAD) *- A condition characterized by marked and persistent fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others, with fear of negative evaluation leading to humiliation, embarrassment, rejection, or offense.*

Social Prescribing *- An approach developed in the United Kingdom involving linking people to community activities and resources that support their well-being, including social groups, volunteer activities, sports clubs, arts activities, and cultural events.*

Socratic Questioning *- A technique in CBT where the therapist uses a series of guided questions to help the patient examine their own assumptions rather than simply telling them that their thoughts are inaccurate.*

Somatic Symptom Disorder (SSD) *- A condition characterized by the presence of one or more somatic symptoms that are distressing or result in significant disruption of daily life, together with excessive thoughts, feelings, or behaviors related to those symptoms.*

Somatization *- The expression of psychological distress through physical symptoms; the most common psychiatric presentation in Bangladeshi primary care and general medical settings.*

Specific Phobia *- A condition characterized by marked and excessive fear or anxiety consistently provoked by a specific object or situation, disproportionate to the actual risk posed, and actively avoided or endured with intense anxiety.*

Stepped Care Model *- An organizational framework for mental health care where people receive the least intensive and least costly level of care that is effective for their needs, with more intensive interventions reserved for those who do not respond to lower-intensity approaches.*

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Stigma *- An attribute that discredits a person in the eyes of others, reducing them from a full person to a tainted, discounted one; in mental health, refers to negative attitudes, beliefs, and behaviors directed at people with mental illness.*

Stratified Psychiatry *- A practical intermediate step toward precision psychiatry that aims to identify subgroups of patients who share biological characteristics (endophenotypes, biomarkers, genetic profiles) and who may respond similarly to particular treatments.*

Stress-Vulnerability Model *- A framework for understanding why some individuals develop mental disorders in response to stressors that others tolerate without apparent ill effect, proposing that each individual has a level of vulnerability based on genetic factors, early experiences, neurobiological characteristics, and psychological traits.*

Structural Stigma *- The ways in which social institutions, policies, and practices systematically disadvantage people with mental illness, not necessarily through explicit prejudice but through the accumulated effect of organizational norms, resource allocation decisions, and policy choices.*

Structural Family Therapy *- Salvador Minuchin's model conceptualizing psychological symptoms as arising from disturbances in the structure and organization of the family system including inappropriate hierarchies, unclear or rigid boundaries, enmeshment, and disengagement.*

Supported Decision-Making *- Arrangements by which persons with cognitive or psychosocial disabilities are supported in making their own decisions rather than having decisions made for them; includes trusted advisors who help understand information, communication supports, and peer support.*

Supportive Psychotherapy *- A form of psychotherapy that aims not to change the patient's fundamental psychological structure but to help them function more effectively and comfortably within their existing capacities, using empathic listening, normalization, problem-solving, and facilitation of coping.*

Synaptic Pruning *- The process by which excess synaptic connections formed during childhood are eliminated during adolescence; may be excessive in genetically vulnerable individuals, contributing to schizophrenia pathophysiology.*

T

Tardive Dyskinesia (TD) *- A syndrome of involuntary, repetitive, purposeless movements, typically affecting the orofacial region (lip-smacking, tongue protrusion, chewing movements) but also potentially involving the trunk and limbs; develops after prolonged exposure to dopamine-blocking agents and may be irreversible.*

Task-Sharing *- The training of non-specialist health workers, including primary care physicians, nurses, community health workers, and lay counselors, to deliver simplified, evidence-based psychological and psychosocial interventions for common mental disorders under the supervision of mental health specialists.*

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Tertiary Prevention *- Public mental health interventions aiming to reduce the burden of established disorders by preventing complications, disability, and mortality through rehabilitation and social support.*

Therapeutic Alliance *- The quality of the collaborative working relationship between therapist and patient; a stronger predictor of outcome than specific therapeutic techniques in many studies.*

Therapeutic Drug Monitoring *- Regular measurement of medication plasma levels; essential for lithium (narrow therapeutic window) and for clozapine (agranulocytosis monitoring), and important for some other medications.*

Therapeutic Window *- The range of plasma concentrations or doses within which a drug produces its therapeutic effects without unacceptable adverse effects; narrow for lithium and some tricyclic antidepressants, wider for SSRIs.*

Theory of Mind (ToM) *- The ability to attribute mental states (beliefs, desires, intentions, knowledge) to oneself and to others, and to use these attributions to predict and explain behavior; impaired in autism spectrum disorder.*

Thought Disorder (Formal Thought Disorder) *- A disturbance in the form or organization of thinking, as distinct from the content of thought; detected through observation of speech including loosening of associations, tangentiality, poverty of thought, thought blocking, and neologisms.*

Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) *- The most evidence-based treatment for PTSD in children and adolescents, integrating trauma-sensitive CBT components with family involvement and specific trauma processing elements.*

Treatment Gap *- The proportion of people with mental disorders who do not receive any form of care for their condition; in Bangladesh, exceeds 90 percent for depression and is approximately 60 percent for schizophrenia.*

Treatment Resistant Depression (TRD) *- Depression that has not responded to at least two adequate antidepressant trials of different classes, at adequate doses, for adequate duration; affects approximately 30 to 40 percent of patients with major depressive disorder.*

Tricyclic Antidepressants (TCAs) *- Antidepressants that inhibit the reuptake of both serotonin and norepinephrine, with additional activity at histamine H1, muscarinic acetylcholine, and alpha-1 adrenergic receptors; effective but with significant side effects and dangerous in overdose.*

Two-Hit Model of Schizophrenia *- The proposal that schizophrenia requires at least two separate adverse events or exposures: a first hit establishing neurobiological vulnerability during early brain development, and a second hit during adolescence triggering the expression of psychosis.*

V

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Vaginismus (Genitopelvic Pain/Penetration Disorder) *- Persistent difficulty with vaginal penetration, genital pain during intercourse, or fear of pain associated with penetration; an extremely common cause of sexual dysfunction in Bangladeshi women, profoundly underreported and underdiagnosed.*

Valproate (Sodium Valproate, Valproic Acid) *- A mood stabilizer highly effective in acute mania and mixed states, easier to initiate than lithium in acute phase; contraindicated in women of childbearing potential due to teratogenicity (neural tube defects, cardiac abnormalities, neurodevelopmental impairment).*

Vascular Dementia (VaD) *- Dementia resulting from cerebrovascular disease, including large vessel disease (stroke-related dementia), small vessel disease (subcortical ischemic vascular dementia), or a combination; second most common cause of dementia globally.*

Vascular Depression *- A construct referring to depression associated with cerebrovascular disease and white matter hyperintensities, tending to present with more cognitive and executive dysfunction, more somatic features, and less prominent sadness; associated with poorer prognosis and attenuated response to standard antidepressant treatment.*

W

Wernicke's Encephalopathy *- An acute neurological emergency caused by thiamine deficiency, most commonly in the context of heavy alcohol use, characterized by ophthalmoplegia, ataxia, and global confusional state (classical triad present in fewer than 20 percent of cases).*

Worry *- The cognitive component of anxiety: repetitive, uncontrollable chains of negative thoughts about future events that are central to conditions like generalized anxiety disorder.*

X

Xanomeline-Trospium Chloride (Cobenfy) *- The first antipsychotic approved for schizophrenia that does not primarily work through dopamine receptor blockade; approved by FDA in 2024; xanomeline is a muscarinic M1 and M4 receptor agonist, trospium is a peripheral muscarinic antagonist included to prevent peripheral side effects.*

Y

Yaba *- A tablet containing a combination of methamphetamine and caffeine, manufactured primarily in Myanmar and trafficked into Bangladesh; the most significant substance use crisis in Bangladesh, with an estimated 2.3 million regular users.*

Z

Z-drugs *- Non-benzodiazepine GABA-A receptor modulators including zolpidem, zopiclone, and zaleplon; widely used as hypnotics but should be used with caution given dependence potential.*

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Zuranolone *- An oral neurosteroid that received FDA approval in 2023 for both postpartum depression and major depressive disorder; acts on GABA-A receptors through its neuroactive steroid mechanism.*

Bangladesh-centered exploration of psychiatry and behavioral science

S M Nazmuz Sakib

This comprehensive textbook offers a Bangladesh-centered exploration of psychiatry and behavioral science, bridging global evidence with local realities. It systematically covers the foundations of the discibline, neurobiology, theoretical models, and the full spectrum of psychiatric disorders (psychotic, mood, anxiety, trauma, substance use, neurodevelopmental, personality, somatic, eating, sleep, and sexual disorders). The book integrates cultural context, epidomiologiy, health system analysis, public mental health, psychopharmacology, psychological therapies, forensic psychiatry, human rights, and emerging frontiers such as precision psychiatry and digital mental health. With extensive case studies, intmst-glirmaent protocols, and a strong emphasis on stigma, social determinents, and task-sharing, it aims to equip clinicians, students, and policyna-touls in prnacihs. Bangladesh's vast mental health treatment gap.

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